Memorandum

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Subject: Ecological Screening Assessment for Secondary Pond under Future Use Scenarios

1. Introduction

This memorandum presents a summary of the potential end-uses for the Secondary Pond at Revitalizing Auto Communities Environmental Response Trust's (RACER) Former Nodular Industrial Land (Site) in Saginaw, Michigan. The Site location is presented on Figure 1.1 and the Site Plan is presented on Figure 1.2. The Site is undergoing Resource Conservation and Recovery Act (RCRA) Corrective Action under Administrative Order on Consent RCRA-05-2011-0023.

The potential end-uses being considered include the following:

1. Maintain as current ponded feature;
2. Modify to be a wetland / marsh;
3. Drain to be terrestrial area with potentially limited or no habitat value; or
4. Some combination of the above.

The primary consideration regarding an acceptable end-use is the ability to cost-effectively address potential ecological and human health risks. This memorandum provides an evaluation of potential ecological risks and potential remedial options, along with more limited consideration of human health risks.

This document does not follow the standard U. S. Environmental Protection (USEPA) ecological risk assessment (ERA) process (e.g., USEPA 1997) for several reasons. First, the intent of this analysis is different from a typical ERA. A typical ERA deals with a natural ecosystem (e.g., an aquatic area, wetland, or terrestrial habitat) that has been contaminated by chemicals. For this typical situation, the goal of an ERA and subsequent remediation is to return an area to its original ecosystem with acceptable risks from historical chemical contaminants. However, the Secondary Pond is an unnatural ecosystem. It is a man-made pond originally created for wastewater treatment plant (WWTP) operations, so the future ecosystem could be a pond, wetland, terrestrial area, or some combination of these. Rather than conducting three different ERAs and Feasibility Studies, one for each of these potential future ecosystems, the following

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analysis intends to guide selection of a preferred future ecosystem state based on potential risks, remedial costs, and value to RACER and to the local community. A second problem is that a traditional ERA format has multiple steps, several of which are so conservative (e.g., screening of maximum concentrations versus lowest ecological screening values (ESVs), etc.) that they would not be very useful for this Site. Cursory examination of the chemical concentrations found in the pond's sediments shows that many chemicals (PCBs, almost all of the metals) are well above most conservative ESVs for both soil and sediments. Therefore, strict adherence to ERA protocols would, after much effort, indicate what is now obvious - many chemicals in Secondary Pond sediments fail conservative screening methods.

1.1 Background

The Secondary Pond is part of the former WWTP, which was built in 1976 to treat the effluent water from the former Nodular Iron Plant and the Saginaw Metal Casting Operations (SMCO) facility. WWTP operation ceased in 2010, upon completion of the new treatment facility at the General Motors (GM) SMCO facility. The former WWTP was part of an overall water recycle system that returned treated water for reuse as part of the manufacturing operations. The former WWTP included a treatment plant (now demolished), primary settling ponds (now filled and capped), and a Secondary Pond. The Secondary Pond is the subject of this memo.

The Secondary Pond was incorporated into the WWTP system beginning in 1977. The Secondary Pond was built on low permeability glaciolacustrine clay that underlies the area. This clay is encountered across the Nodular property at approximately 5 to 10 feet below ground surface (ft bgs) and extends to a depth of approximately 68 to 95 ft bgs. The clay is fine-grained; water does not enter readily or move freely within the clay, as observed during extensive investigations at the Site. The water table is generally encountered within 5 ft of the ground surface in the area surrounding the Secondary Pond.

When filled, the Secondary Pond is approximately 1.2 million square feet (28 acres) in area with an average depth of approximately 12 ft (top of berm to base of pond) with a total available volume of approximately 90 million gallons. The basin was constructed by excavating into the underlying clay and using the excavated clay to construct berms and sidewalls. The Secondary Pond was used to allow solids remaining in effluent from the primary basins (primary basins previously filled and covered) to settle, prior to recirculating the water. A partially separated portion of the Secondary Pond is referred to as Lagoon 5, which is currently connected by a culvert pipe with a butterfly valve. Although separated from the main body of the Secondary Pond, the only uses known for Lagoon 5 were the same as the rest of the pond.

Because the pond's bottom and dikes are composed of impermeable clay, groundwater flow into and out of the pond is thought to be minimal. The pond was originally filled with pumped water, and the pond's surface elevation, prior to partial draining in fall of 2016, was perched approximately 6 ft above the surrounding groundwater table. Climate data and recent experience suggest that the pond ecosystem could be maintained without active pumping. Yearly precipitation, about 33.3-inches, is about 10-inches greater than evapotranspiration, 23-inches/year (USDA 1961). Assuming, reasonably, that losses to underlying saturated units and inputs of surface water drainage from non-pond surfaces are both small and off-setting, the pond's water balance should be slightly positive. This prediction conforms to experience. As of September 2010, the Secondary Pond stopped receiving water from the WWTP and as of 2013 all sumps stopped pumping water

to the Secondary Pond. Since then, the only water entering the Secondary Pond is from direct runoff associated with precipitation. With only precipitation as a source, the water level in the pond has remained relatively stable with only periodic, small discharges during wetter seasons.

In 2012, a controlled outlet (1-ft diameter PVC pipe with valve) was installed through the Secondary Pond embankment to allow gravity discharge from the pond to maintain freeboard and prevent overtopping. A National Pollutant Discharge Elimination System (NPDES) permit was issued August 24, 2012 to allow discharge of water from the controlled outlet (as there was previously no outlet).

The Secondary Pond currently contains sediments associated with historical operations. The sediment thickness ranges from <1 ft to approximately 5 ft, and these sediments have elevated concentrations of metals and some organics, notably PCBs.

2. Investigation Summary

The following sections present previous investigations and analytical results for the Secondary Pond.

2.1 RCRA Facility Investigation

As part of the RCRA Facility Investigation (RFI) two rounds of sampling were conducted in the Secondary Pond. The first sampling round was conducted in 1998 in which 4 sediment samples and 4 surface water samples were collected. Sediment samples were analyzed for polychlorinated biphenyls (PCBs), metals, acid volatile sulfide/simultaneously extracted metals (AVS/SEM) and general chemistry. AVS/SEM analyses estimate bioavailability of divalent metals and chromium, providing better estimates of potential risks to benthic invertebrates than bulk sediment chemistry (USEPA 2005). Surface water samples were analyzed for metals and PCBs. The second round of sampling was conducted in 2005 in which an additional 4 sediment samples and 2 surface water samples were collected. Sediment samples were analyzed for PCBs, manganese and lead. Surface water samples were analyzed for metals. The results were summarized in a Phase 1C RFI Report (CRA, March 2007).

As part of the Phase 1C RFI Report, an ERA and human health risk assessment (HHRA) were completed of the Secondary Pond. Because the Secondary Pond was then a process-related settling pond, the HHRA and ERA (Exponent 2007) assumed that the ponds were not habitat for fish or macroinvertebrates. Consequently, the RFI's HHRA and ERA did not consider risks to humans, fish-eating wildlife, or in-pond biota. However, because larval aquatic insects were found in the pond's sediments, the ERA did consider potential risks to aerial insectivores that consume adult aquatic insects emerging from the pond. The ERA (Exponent 2007) reported no unacceptable risks to aerial insectivores feeding on insects emerging from the pond. The ERA concluded that, "Risk of adverse ecological effects is low to negligible from exposure to Facility-related constituents."

In 2011, following cessation of WWTP operations, additional characterization of the Secondary Pond (sediment and water) was completed for the purpose of obtaining an NPDES permit for the discharge of water, and, if necessary, to evaluate remedial alternatives. A Sampling and Analysis Plan (SAP) was submitted to USEPA and was approved on June 28, 2011. Twelve sediment samples were collected and

analyzed for metals, PCBs, AVS/SEM and general chemistry and 31 surface water samples were collected and analyzed for metals, PCBs, and general chemistry. The results were submitted to USEPA on February 6, 2012 via email.

All data collected as part of the RFI and the additional 2011 sample data were submitted to USEPA in a Supplemental RFI Report dated September 28, 2012.

Attachment A.1 presents a summary of the sediment data and Attachment A.2 presents a summary of the surface water data.

2.2 2016 Additional RFI Investigation

In March 2016, additional investigation of the Secondary Pond sediments and water was conducted to support RCRA Corrective Action and evaluation for suitability for potential establishment of mitigation wetlands. Ten (10) sediment samples and 2 underlying clay samples were collected and analyzed for volatile organic compounds (VOCs), metals, AVS/SEM, PCBs and general chemistry. Twelve surface water samples were collected at varying depths and analyzed for VOCs, semi-volatile organic compounds (SVOCs), metals, PCBs, and general chemistry. The latter included ammonia and formaldehyde, which had been found in high concentrations in the Pond's sediments. Table A.2 lists results for water column samples.

In May 2016, a more detailed investigation was conducted of the Secondary Pond, collecting sediment samples at various depths and samples of the underlying clay. Sixty-three (63) sediment samples and 20 underlying clay samples were collected and analyzed for metals, PCBs, and general chemistry. The latter included formaldehyde, ammonia, and total cyanide.

In August 2016, further PCB delineation investigation was conducted to better define the limits of elevated PCBs in sediments. Twenty-seven sediment samples were collected and analyzed for PCBs.

Attachment A.1 presents a summary of the sediment data and Attachment A.2 presents a summary of the surface water data.

2.3 Investigation Summary

Sediment analytical data collected from the Secondary Pond were screened against 2013 MDEQ Part 201 GSI protection and Direct Contact Criteria. Figures 2.1, 2.2, and 2.3 present the screening results for sediment. Attachment A presents a summary of all sediment and surface water results from the Secondary Pond.

2.4 2016 Conditions

In order to effectively evaluate potential remediation alternatives for the Secondary Pond, most of the water was drained from the Secondary Pond in June 2016. Initially, water was discharged by gravity flow through the NPDES permitted discharge pipe. Daily sampling during discharge was conducted in accordance with the NPDES permit. On June 23, 2016, RACER lowered the outfall pipe approximately 5-ft as discussed with and approved by the Michigan Department of Environmental Quality (MDEQ) Water Resources Division. The

water level in the Secondary Pond was continued to be lowered by gravity through the newly lowered outfall pipe and sampled daily during discharge in accordance with the NPDES permit. Once the water level was lowered to the invert of the outfall pipe, water was pumped through the outfall pipe as discussed with and approved by the MDEQ NPDES permitting department and continued to be sampled daily during discharge in accordance with the NPDES permit. On September 12, 2016 discharge of water from the Secondary Pond was terminated as the floating pump intake was too close to the sediments. The remaining water in the Secondary Pond is being managed on-Site, some of which has been pumped to Lagoon 5. Attachment B presents a photographic log of the Secondary Pond during the lowering of the water level between June and September 2016 and few more recent photos of current conditions. Figure 2.4 presents a cross-section along the North Ditch, berm, and Secondary Pond.

3. Potential End-Uses

Despite the presence of process-related contaminants in the sediments, the following potential end-uses are being considered. The screening of ecological risks is presented in Section 4.

3.1 Pond

This end-use is equivalent to the no-action alternative and leaves the sediment in place. There would continue to be an outfall to allow for discharges to prevent overtopping. However, the goal would be to manage the outfall in a normally open condition, to allow for discharge as excess water in the pond accumulates. Because total inflows of water (from precipitation) apparently exceed outflows (to groundwater and evapotranspiration), the anticipated water depth of the Pond would be the invert of the outlet pipe or approximately 585 ft AMSL.

Thus, the future pond ecosystem is likely to be similar to the pond that occurred before partial draining in fall of 2016. Since the Site is currently not in use, the Secondary Pond has been naturalizing over time. At a Site visit in late fall 2016, a group of small egrets were feeding on the shoreline, suggesting that the Pond has become colonized by fish. Mosquitoes were not abundant, which also suggests that the Pond has been colonized by fish. This naturalization process would continue under this future scenario.

3.2 Wetland

This end-use leaves the sediment in place but introduces additional water level control to maintain a maximum water depth over the sediment. (Too deep of overlying water could prevent establishment of wetland vegetation). This water level would be controlled by a passive gravity drainage discharging to the county drain to the north. The anticipated water depth would be designed to support wetland vegetation. The screening of chemical concentrations, presented in Section 4, screen sediments in their current state. However, establishment of wetland vegetation across much of the pond bottom will likely require some grading to fill in deep holes and attain more uniform depth throughout the pond area. Thus, average concentrations of chemicals in sediments might be a better estimate of future exposure for biotic receptors in the wetland.

3.3 Terrestrial

This end-use leaves the sediment in place but completely drains the Pond. Complete drainage is necessary to prevent saturated conditions which would cause the establishment of wetland vegetation. As with the other two options, this release would be a passive gravity drainage discharging to the county drain to the north.

3.4 Combination of the above

Because the current gravity-fed discharge does not completely drain the Pond, another do-nothing option would be to allow the Pond to transition to a small central area of shallow, probably permanent open water, with a small surrounding fringe of land that would likely be wetland. In turn, the bulk of surrounding land in higher areas would revert to upland terrestrial habitat.

4. Ecological Evaluation

As previously identified, the Secondary Pond stopped receiving waters for treatment in September 2010 and now the only water entering the Secondary Pond is from direct runoff associated with precipitation events. The following analysis considers potential ecological risks under the three different future end-use scenarios discussed above for the Secondary Pond.

Currently, RACER is planning an Interim Measure to remove the PCB hot spot. More specifically, those more contaminated sediments with PCB concentrations above 25 milligrams per kilogram (mg/kg) would be removed. After this removal, the surface weighted average concentration (SWAC) is expected to be approximately 1 mg/kg. The following risk assessments will assume that this Interim Measure is undertaken, but risks with current, un-remediated sediments will also be considered.

4.1 EcoRisks for a Pond Ecosystem

Under this end-use, the Secondary Pond would be allowed to naturalize. Recent experience and climate data suggest that annual precipitation slightly exceeds total losses due to evapotranspiration from the Secondary Pond. Interaction with underlying groundwater is also assumed to be negligible. Therefore, under a “do nothing” scenario, the Secondary Pond’s surface area, average depth, and current habitat quality, which occurred prior to partial draining in fall of 2016, will likely persist into the future. That is, the future pond will be mostly open surface water with little to no emergent vegetation. In this scenario, the future ecological receptors will be those of a natural pond: fish and water column invertebrates, benthic invertebrates, and semi-aquatic predators consuming fish, amphibians, and invertebrates. Exposure media would be surface water and sediments, and aquatic biological tissue for readily bioaccumulating substances.

4.1.1 Risks to Consumers of Aquatic Life in Secondary Pond

Of the sediment bound chemicals at elevated concentrations, only PCBs readily bioaccumulate in fish[1]. PCB concentrations in the Pond sediments average approximately 4 mg/kg, although surface samples in the top

[1] The metals will also bioaccumulate in benthic invertebrates, but the risk to consumers of benthic invertebrates from metals in aquatic sediments was addressed, and dismissed as unlikely, in the original ERA (Exponent 2007). PCBs also accumulated in benthic invertebrates, but risks from PCBs to predators of benthic invertebrates were also dismissed in Exponent’s ERA.

one foot of sediment average about 1.8 mg/kg. As discussed above, however, more contaminated sediments with PCB concentrations above 25 mg/kg will be removed, after which the SWAC will be approximately 1.1 mg/kg for all sediments to 1.2 mg/kg total PCBs for sediments in the top 12 inches.

As the Pond is more completely colonized by fish, there will be additional exposure to fish-eating wildlife, typically represented in ERAs by mink and herons. Mink are more sensitive than birds to PCB toxicity; thus, the following will focus on risks to this most-sensitive species. The PCBs in the Pond are almost entirely Aroclor 1242, which is both less toxic and less bioaccumulative than more-chlorinated Aroclors (USEPA 1995). Future fish concentrations of Aroclor 1242 can be estimated with information found in Oliver and Niimi (1988), which has been used as the basis for formal regulatory rulemaking by the USEPA and several Great Lakes states in the Great Lakes Water Quality Initiative (USEPA 1995). Aroclor 1242 is mostly trichlorobiphenyls. According to Oliver and Niimi's data, Biota Sediment Bioaccumulation Factor (BSAF) values for the bottom-feeding sculpin and trichlorobiphenyls were about 0.20 on a lipid- and carbon-normalized basis.

The sediments in the Secondary Pond average approximately 5 percent organic carbon, while small forage fish generally have approximately 3 to 5 percent lipid (e.g., see Suns and Hitchen 1992). Given these data, it can be conservatively assumed that the percent of fish lipids equals the percent of sediment organic carbon, suggesting a somewhat conservative Site-specific BSAF of 0.2 for forage fish. This BSAF produces an estimated average bottom-feeding forage fish concentration of PCBs of approximately 0.24 mg/kg, assuming a post-cleanup average concentration of 1.2 mg/kg. By comparison, the Region V No Observed Effect Concentration (NOEC) for PCBs effects on mink is 0.5 mg/kg (Chapman 2003). However, this NOEC pertains to more toxic Aroclors 1248 and 1254, and a NOEC specific to Aroclor 1242 was estimated to be 1.3 mg/kg (Chapman 2003). Therefore, potential PCB exposures to most sensitive fish-eating wildlife, the mink, are about 1/5 to 1/6 of the NOEC. Because fish eating birds are less sensitive than mink to PCBs, risks to piscivorous birds will also be negligible[2].

Four safety factors are built into this analysis.

- First, the exposure assessment assumes that mink eat only fish from the Secondary Pond. In fact, mink typically eat about as much terrestrial prey as aquatic prey, and local mink will likely also forage in nearby aquatic systems. Thus, much of the mink's ration will not be from the Pond.
- Second, the assessment assumes that mink only eat benthivorous fish that are most exposed to sediment-bound PCBs. Many forage fish in the pond will instead be feeding on the less contaminated water-column food chain.
    - Third, the total ponded area of the Secondary Pond is about the same size as the average mink's home range. Thus, potential risks would pertain to, at most, about one mink. On average, only half of the time would this one mink be a mature female, which are most vulnerable to PCB toxicity[3].

[2] Because current surface sediment concentrations are only about three times those anticipated after removal of higher PCB concentrations, the assessment of no significant risk to fish-eating wildlife pertains to current conditions as well.

[3] PCBs are most toxic to embryonic and neonatal mink. Toxic effects on mink actually pertain to the reproductive potential of any resident female mink, not to males or adult females themselves.

- Lastly, the Secondary Pond received wastes from a foundry, where very hot (2500°F) molten metals were poured into molds and allowed to cool. This process likely produced considerable quantities of soot, also called black carbon. Compared to typical organic carbon, black carbon binds much more aggressively to hydrophobic substances, like PCBs, greatly reducing their bioavailability and potential for bioaccumulation (e.g., see Cornelissen et al. 2005; Driscoll et al. 2009; USEPA 2012).

4.1.2 Risks to Water Column Species

Water column concentrations were measured at several locations in 2011 and 2016. The 2011 samples were analyzed for total metals, PCBs, and conventional pollutants and the 2016 samples were analyzed for the same list, as well as, VOCs and SVOCs. Ammonia, cyanide, and formaldehyde were assayed in the water column since these constituents were found at elevated concentrations in the sediments. Detected constituents were screened against chronic water quality criteria (WQC) from Michigan or other reliable sources if no Michigan WQC were available. No valid criteria are available for total cyanide, so the water column concentrations were compared to the WQC for free cyanide. This is very conservative since free cyanide typically makes up only a small part of total cyanide. Hardness dependent criteria were estimated at the average hardness for the Secondary Pond.

Calcium, magnesium, potassium, and sodium were detected in the water column and sediments. However, these are macronutrients and, thus, are not considered potentially toxic. These macronutrients are not discussed further with respect to the water column or sediments.

Because Lagoon 5 has lower chemical concentrations than the main body of the Secondary Pond, results of water column samples from these two areas were screened separately. Screening of risks was based on the widely used quotient method, in which an ecological screening quotient (SQ) for each chemical is estimated as:

$$SQ = \frac{EEC}{ESV}$$

where EEC is the estimated exposure concentration and ESV is the ecological screening value, which is also a concentration. In the following analyses, the EEC and SQ values are based on both the maximum and mean concentrations of each chemical. In addition to SQ values, screening tables also provide the frequency of exceedance (FOE), the proportion of samples that exceeded the ESVs. Assuming that samples are reasonably dispersed in space, the FOE is an index of the % of area that could be potentially problematic. For sedentary and non-motile biota, such as plants and benthic invertebrates, the FOE may be a useful indicator of potential risks to the populations. Screening tables also provide summary information about samples, such as number of samples, frequency of detection, maximum and mean concentrations.

Except potentially for ammonia, water column concentrations of chemicals measured in 2011 were below levels that could cause impacts on aquatic biota in the Secondary Pond (Tables 1 and 2). The most recent sampling of ammonia in 2016 confirmed the decline of ammonia to non-toxic and non-detectable levels, < 0.2 mg/L. As there are no ongoing sources of ammonia to the Pond, that non-toxic condition is assumed to persist into the future.

Total aluminum concentrations were slightly above the USEPA WQC in both Lagoon 5 (Table 1) and the main body of the Secondary Pond (Table 2). However, metals toxicity is almost entirely due to dissolved metals; much of the total metals concentrations of aluminum would be bound and relatively non-toxic. In addition, the aluminum WQC is known to be very conservative (USEPA 2006[4]). Even if these were dissolved concentrations, these aluminum concentrations would not be toxic to aquatic life at the Pond's ambient values of hardness and pH (GEI 2009). Total cyanide also slightly exceeded the free cyanide ESV in the main body of the Secondary Pond (Table 2). As described above, however, little of the total cyanide is likely free cyanide; consequently, these exceedances are not considered problematic. In summary, then, risks to water column species can be dismissed in the both Lagoon 5 and the main body of the Secondary Pond.

4.1.3 Risks to Aquatic Benthos

To screen for risks to aquatic benthos, the data were screened against the following ecological screening values (ESVs). Non-polar organics were screened against Final Chronic Values (FCVs) produced in USEPA (2003 and 2008). Because several non-polar organics were detected and these pose additive toxicity, the FCVs for individual chemicals were divided by 10 to produce ESVs that account for potential additive toxicity. Metals were screened against Probable Effects Concentrations (PEC), which are recommended by Michigan. As a second choice, Region 4 ESVs were used (USEPA Region 4, 2015). Because the intent of this screening is to assess real potential for toxicity, Region 4's less conservative rescreening values were used if they were available. If none of these sources had an ESV, then Dutch Maximum Permissible Concentrations (MPC) for sediments were used Crommentuijn et al. (1997)[5].

AVS/SEM data were also obtained for a more limited number of sediment samples. For the AVS/SEM data, USEPA guidance (USEPA 2005) indicates that values of carbon normalized excess SEM (CNE-SEM) less than 130 umol/gram organic carbon (OC) are not toxic to benthic invertebrates. The CNE-SEM is simply the difference between SEM and AVS (i.e., SEM – AVS) divided by the concentration of organic carbon. Values of CNE-SEM below 130 umol/gram OC are not toxic, those above 3,000 umol/gram OC are more likely to be toxic than non-toxic[6]. Between these two thresholds, it is uncertain whether the samples will be toxic or non-toxic, although the probability of toxicity rises as the value increases (See Figure 3.8 of USEPA 2005).

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4 In fact, the agency itself has little confidence in this value. In its listing of WQC, the aluminum WQC is footnoted, in USEPA (2006), with the statement "*EPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 ug aluminum/L.*" USEPA (2006) also discusses that aluminum toxicity will be strongly affected by both pH and water hardness. This correct observation further undercuts the WQC because the WQC considers neither pH nor hardness, and this WQC was largely based on a single bioassay at a relatively low pH and extremely low hardness (10 mg/L). An alternate WQC for aluminum has been developed that reflects hardness effects and normal pH values for surface water (GEI 2009). This alternate criterion produces much higher ESVs.

5 The MPCs are estimated as the maximum amount of a metal that could be added to background concentrations without causing toxicity to most species. The derivation of the Netherlands MPCs is transparent, and it is well described in the source document (Crommentuijn et al., 1997). The Netherlands values also specifically incorporate background concentrations. On the other hand, these values are primarily based on direct toxicity, although potential toxicity via bioaccumulation pathways is a minor part of the derivation.

6 USEPA (2005) is not explicit about how this upper threshold was determined. However, inspection of Figure 3.8 of that document suggests that this upper threshold is the threshold at which about 50% of samples are toxic. Non-toxic samples occur above this threshold; some samples with CNE-SEM up to about 15,000 umol/g OC are not toxic.

Results for CNE-SEM are compared to both thresholds to allow inferences. Figure 4.1 presents the CNE-SEM analysis on the sediment samples in the Secondary Pond.

The screening results of sediment from Lagoon 5 are presented in Table 3. As shown there, concentrations of some metals sometimes exceed the screening values, but mean values generally do not and only marginally when they do. Moreover, while lead and zinc were sometimes problematic when compared to PECs, these divalent metals were never a problem using the more reliable AVS/SEM method. Five AVS/SEM samples were taken in Lagoon 5, and all of them had CNE-SEM values below 130 ug/g OC (Table 3). Manganese was above its ESV in 25 percent of samples. This FOE was not considered meaningful because it is only slightly above a widely used threshold, 20 percent, for *de minimis* ecological effects (Suter et al. 1995, 2000; Henning and Shear 1998). The average magnitude of exceedance of this conservative ESV suggests that risks from manganese can also be dismissed.

Three other pollutants (formaldehyde, total cyanide, and ammonia) were found at elevated concentrations in Lagoon 5 sediments, but have no reliable ESVs. However, the potential risks of these contaminants were not considered important for future scenarios. Ammonia, formaldehyde, and free cyanide are all quite vulnerable to biodegradation and dilution, and there are no known current sources other than the exhaustible legacy stores in the sediments. Thus, these chemicals are not expected to persist in the biologically active zone of sediments, where benthos live currently and in the future. As evidence of this, formaldehyde was not detected in the water column, and ammonia concentrations in the water column have declined significantly over the past several years, from about 10 mg/L in 2011 to <0.20 mg/L in 2016. Thus, concentrations of these non-persistent compounds were not considered to be potentially problematic for Lagoon 5 or the remainder of the Secondary Pond. This same conclusion was assumed for other scenarios; these chemicals were not considered to potentially cause risk for future wetland or terrestrial habitats.

Table 4 presents the screening of sediment analysis of data from the main body of the Secondary Pond. Several organic chemicals were detected at higher concentrations than in Lagoon 5, and phenol and methlyphenol also exceeded ESVs. Formaldehyde, cyanide, and ammonia were also found in high concentrations in sediments. However, as with the screening of Lagoon 5, the exceedances for all of these organic compounds and ammonia were not considered problematic for future scenarios because all of these compounds are very leachable and biodegradable. Thus, these organics and ammonia are not expected to persist in the sediments in which benthos live now or in the future. PCB concentrations also exceeded the PEC values, but it is well known that PCBs are not very toxic to benthic invertebrates because they lack the Ah receptor, which mediates the extreme toxicity of PCBs. As is also well known, PCBs are very toxic to vertebrates, which have Ah receptors. However, risks to vertebrates were addressed in Section 4.1.1.

Many metals exceeded screening values and, in contrast to the organics, are typically very persistent in aquatic sediment. Therefore, these exceedances were considered potentially problematic for the future pond scenario. These exceedances can be divided into those for non-divalent metals (beryllium, manganese, selenium, and thallium) and those for divalent metals and chromium that can be addressed by the AVS/SEM data. According to AVS/SEM data based on 16 sample locations, 3 samples are likely not toxic, 4 samples are likely to be toxic, and the remaining 9 samples are in the intermediate range between likely non-toxic and likely toxic (Figure 4.1). Assuming simplistically that all samples are representative of the same area and that

the intermediate samples split evenly into non-toxic and toxic, approximately 46 percent of the samples are predicted to be non-toxic and the remaining 54 percent are predicted to be toxic to benthos.

The other metals, especially manganese, also exceed their somewhat conservative ESVs, in a significant proportion of sediments. However, high concentrations of these other metals co-occurred with high concentrations of divalent metals and resulting high CNE-SEM. Hence, the slightly more than half of the pond bottom that is potentially toxic due to divalent metals is also potentially toxic due to these other metals as well. These additional potential toxic effects support the conclusion that about half of the pond bottom is toxic to benthic invertebrates.

On the other hand, the assessment that slightly more than half of the pond bottom is toxic to benthic invertebrates may overstate the effects. For one thing, soft sediments in ponds are generally dominated by midge larvae and oligochaetes. These taxa tend to be relatively insensitive to metals toxicity and may be less sensitive to metals' toxicity than the species used to derive the AVS/SEM benchmarks. More importantly, the overlying surface water does not contain toxic concentrations of any substance, and even true infauna (i.e., faunal living "in" the sediments) are exposed to a combination of overlying surface water and sediment pore water. There are also epifaunal species of benthos (i.e., species that live at the sediment-water interface). Surface water exposure is even more important to epibenthic species, which live on the top of the sediment surface. Thus, the epifaunal species are at less risk than those that live in the sediments. For these reasons, the real toxicity to benthic invertebrates in the field is potentially less than 54 percent of the pond bottom.

4.1.4 Risks to Aquatic Plants

Recall that the risks to aquatic benthos in Lagoon 5 were discussed above and found to be negligible. Given the reasonably low concentrations, risks to aquatic plants in Lagoon 5 were also considered unlikely and will not be considered further.

In contrast, concentrations of metals are much higher in sediments of the main body of the Secondary Pond (Table 4), and these high concentrations could potentially cause phytotoxicity to macrophytes (submerged aquatic plants) and emergent plants such as cattails. However, assessing risks to aquatic plants is very difficult for several reasons. First, toxicity data for wetland plants is meager, and that is especially true of submerged macrophytes. Second, the potential toxicities of the major Site-related metals (lead, manganese and zinc) depend significantly on other soil/sediment properties, notably pH, redox, Cation Exchange Capacity (CEC), and organic carbon. Third, the wetland plant roots may alter these soil variables over very small spatial scales.

Notwithstanding these uncertainties, potential toxicity to aquatic plants was screened using the plant-specific soil screening values found in USEPA's EcoSSLs. If no EcoSSL value for phytotoxicity was available, phytotoxicity screening values from Region 4 were used. If no ESV in these two sources, the Dutch MPC values for soil were used to screen for phytotoxicity to macrophytes and emergent aquatic plants. Potential risk from organic chemicals were not considered in this screening because detected organics are either not likely to persist (formaldehyde and phenols) or are minimally toxic to plants (e.g., PCBs). As shown in Table 5, Secondary Pond (not including Lagoon 5) sediment concentrations of selenium, manganese, and especially zinc are well above phytotoxic ESVs. These high-magnitude exceedances suggest a real potential

for toxicity. Some of this effect is due to the conservatism of the benchmarks, since the selenium and manganese ESVs are within the range of naturally occurring background concentrations. Notwithstanding the conservativeness of the ESVs, the degree of exceedance for these metals is quite high. Concentrations of several metals are often an order of magnitude or more above the phytotoxic ESV. Average zinc concentrations in sediments are about 70 times its phytotoxicity ESV.

In short, observed concentrations of metals are often well above concentrations that have caused toxicity in some instance. Thus, the screening of metals concentrations in sediments suggests a realistic potential for toxicity to aquatic plants. Potentially consistent with this, the nearshore area does did not contain a fringe of emergent vegetation when the Secondary Pond was filled.

On the other hand, the following evidence suggests that the sediments are not acutely phytotoxic:

- First, the lack of fringing emergent vegetation could be due to changes in water level or poor soil quality, rather than toxicity. It is important to note that the banks of the Secondary Pond are steep and generally covered by concrete slabs to prevent erosion.
- Second, submerged macrophtyes (probably coontail) were observed growing in some regions of the Secondary Pond, where nearest sediment samples were as high or higher than average zinc and manganese concentrations in the sediments. Thus, for example, there was a dense patch of macrophytes along the shoreline near sample SS-24 where manganese concentrations were 3,600 mg/kg and zinc concentrations were 24,000 mg/kg. There was also a dense stand of macrophytes near the head of Lagoon 5. Closest samples to this location (SS-37 and SS-39) averaged about 5,000 mg/kg manganese and 25,000 mg/kg zinc. This observational evidence suggests that the sediments are not acutely toxic.
- Third, the literature on zinc and manganese toxicity to plants suggests that toxicity of both metals is much reduced at neutral to slightly basic pH, which occurs in the Pond's sediments.
- Fourth, the AVS/SEM data suggest that bioavailability of divalent metals would be somewhat limited in most sediments, although AVS/SEM results may not be readily applicable to plant toxicity and most of the samples in the Secondary Pond were potentially toxic or likely to be toxic to benthos.
- Fifth, manipulative experiments (DeVoder et al. 2003) with acidic mine tailings having similarly high zinc and manganese concentrations showed excellent cattail growth when tailings were covered with pH-balanced carbon-rich material (e.g., sewage biosolids). These manipulative experiments are relevant to assessment of pond sediments, which are moderately carbon-rich and not acidic.
- Lastly, since the Pond was partially drained in fall of 2016, terrestrial vegetation has begun to colonize the now above-water sediments. Currently, there is robust plant growth of terrestrial plants on some areas of heretofore sediments.

In summary, average sediment concentrations of several metals in the main body of the Secondary Pond are well above (5 to 70 times above) screening levels for phytotoxic effects. Potentially consistent with this, the nearshore area was not been colonized by emergent vegetation when the Pond was full. However, some submerged aquatic plants grew in the Pond when it was full, and continue to grow in the Pond now that it is partially drained. Terrestrial plants are now colonizing the drying sediments, and these plants are quite

dense in some areas. Thus, current information is not sufficient to dismiss the potential for phytotoxic effects on submerged and emergent aquatic vegetation, but some plant growth has occurred in the past and will likely occur in the future.

4.1.5 Summary of Risks to the Pond as Pond in the Future

The available evidence suggests that current concentrations in water and sediments of Lagoon 5 are not likely to cause toxicity to surface water biota, benthos living in the sediments, or to semi-aquatic predators consuming either fish or aerial insects emerging from Lagoon 5. The Lagoon 5 bottom is also assumed to be non-toxic to aquatic plants. These were assumed to be non-toxic simply because the sediment concentrations are not very high. Given this, there appears to be little risk if Lagoon 5 is retained as open water habitat.

For the main body of the Secondary Pond (excluding Lagoon 5), concentrations of all detected chemicals are too low to cause toxic effects on water column biota. Concentrations of bioaccumulative chemicals in sediments were previously found to be too low to cause potential risks to semi-aquatic predators consuming emerging insects (Exponent 2007). Simple food-chain analysis presented herein demonstrates that PCB concentration in sediments, after proposed remediation, will be only about 1/5th those that could cause PCB concentrations in forage fish sufficient to cause toxicity to most sensitive fish-eating wildlife.

In contrast, more than half the pond bottom has CNE-SEM values that are either potentially toxic or likely to be toxic. Tending to co-occur with these high CNE-SEM values are concentrations of other metals, especially manganese, that are also often well above ESVs protective of benthic invertebrates. Without further analyses (e.g., pore water, bioassays, macroinvertebrate surveys), unacceptable risks to about half the Pond's benthos cannot be dismissed with available information. Similarly, the concentrations of some metals are well above conservative screening values for phytotoxicity in soils. However, the conservative phytotoxicity screening values for soils may not be applicable to sediments or to sediments with moderately high organic carbon concentrations and slightly basic pHs. There were some areas of macrophytes growing in the pond when it was full, and no-longer-inundated areas of sediments are being colonized by terrestrial plants. Thus, the potential for phytotoxic effects on submerged and emergent aquatic plants cannot be dismissed with available information. At the same time, both terrestrial and submerged aquatic plants have grown or are growing in areas with very high metals concentrations.

Thus, the biota associated with the water column are likely to be un-impacted. Semi-aquatic predators preying on aquatic biota are also predicted to be unharmed. In contrast, toxicity to biota that live in the sediments cannot be dismissed in more than half of the pond bottom. Benthos that live on top of the sediments have intermediate exposures and lower risks than those faced by true infaunal benthos. Submerged aquatic plants were growing in some locations in the Pond when it was fully inundated, but risks to these aquatic plants from chemicals in sediments cannot be dismissed.

4.2 EcoRisk of Pond as a Wetland

Under this future end-use, most or all of the Secondary Pond (excluding Lagoon 5) would be mostly drained such that the area becomes a wetland with little to no open water. Installation of water control structures would be required for this scenario, and grading of the pond bottom to remove deep spots would also be

necessary. For this future scenario, the best indicator of future risk is probably average concentrations for different chemicals. The ecological receptors of the wetland will primarily be wetland plants, which are exposed to chemicals in sediments/wetland soils.

Other exposure pathways occur but are limited in wetland environments. For example, potential risks to aquatic species, such as aquatic benthos and fish and their predators, will be much reduced compared to a pond, since the wetland would presumably dry periodically. Exposures to soil-biota and earthworm-eating species is also limited since periods of flooding prevent development of soil fauna.

Thus, the importance of potential phytotoxicity to rooted plants (Table 5) becomes paramount to ecosystem processes in a wetland. In fact, rooted plants effectively become the wetland ecosystem: a marsh/wetland complex has minimal ecosystem value if there is meager plant growth due to phytotoxicity. Thus, the potentially unacceptable risks to rooted plants evaluated in the pond scenario above are much more important for the future wetland scenario. In addition, complete drying of wetland soils during droughts might also lead to oxidation of the AVS, which could potentially release currently bound divalent metals to more soluble and toxic forms. On the other hand, wetlands typically become progressively carbon-rich over time, and additional carbon would likely ameliorate toxicity of the metals contained in Pond sediment.

Given this, the potential unacceptable risks from phytotoxicity are likely more critical for the habitat as wetland than for the Secondary Pond retained as open water. As summarized for the Pond, the risks of phytotoxicity from metals in sediments cannot be assessed with certainty. Concentrations of three metals, manganese, selenium, and zinc are about 10, 20, and 75 times, respectively, ESVs for phytotoxic effects (Table 5). However, confidence in these ESVs is low, and both aquatic and terrestrial plants hare colonized areas with very high metals concentrations. Thus, assessing risks to wetland plants specifically and, by extension, a wetland ecosystem generally, require additional information or analyses.

4.3 EcoRisk of Pond as Terrestrial Ecosystem

Under this end-use, the Pond would be drained completely and allowed to transition to terrestrial habitat without any grading or placement of clean cover. Because this future terrestrial area would be disturbed industrial land, the appropriate level of protection for ecological receptors is uncertain. If the land were public lands intended as wildlife habitat, for example, all terrestrial ecological receptors would be considered in the ERA. By usual ERA practice, the relevant ecological receptors in this case would be terrestrial plants, soil invertebrates, and mammals and birds that feed on the resident biota and are incidentally exposed to soils.

However, the land is privately-owned and will be maintained as a commercial-industrial land use, with the potential for future development. This future terrestrial area would not be considered either the ecologically or societally important habitat upon which ERA's should typically focus (USEPA 1997, 1998). Instead, ERAs for terrestrial areas on commercial-industrial properties typically consider risks to more restricted list of ecological receptors. In many cases, ERA's of commercial-industrial properties focus on wildlife. In other cases, commercial/industrial lands have such limited ecological potential and societal concern that exposure pathways to all ecological receptors are assumed to be functionally incomplete (USEPA 1997). In this last case where exposures to all ecological receptors are assumed to be insignificant, no unacceptable ecological risks can occur, and no detailed ERA is warranted.

These three different levels of potential regulatory concern will be accommodated in the following screening analysis of future terrestrial habitat. That is, the sediment/soil data will first be screened first for risks to all four receptor groups and then to risks for wildlife only. No screening is necessary for the third scenario, no exposure to any receptor, because exposure to all ecological receptors is assumed to be functionally incomplete.

For the first screening, which considers risks to all ecological receptors, potential ecological risks were screened with EcoSSLs, Region 4 soil screening levels, and, if those sources had no values, Dutch MPC values for soils. The ESV from Oak Ridge National Labs (ORNL), (Efroymonson et al. 1997) was used for PCBs. For this first screening, the lowest EcoSSL and Region 4 soil ESVs, which consider risks to all four receptor groups, were used. In the second screening, the lower of the avian or mammalian EcoSSL or Region 4 ESV was used for screening.

It should be noted and understood that this screening is more conservative than that for sediments and benthos, since less conservative ESVs were intentionally used to screen potential toxicity to benthos. In contrast, the EcoSSLs are very conservative values that are often in the middle or even at the low end of naturally occurring background concentrations.

As can be seen in Table 6, screening pond sediments as future soils with exposures to all ecological receptor groups produces average screening quotients greater than 10 for many compounds (dimethyl-phenol, antimony, cadmium, lead, selenium, thallium, tin, and PCBs) and greater than 100 for zinc. Some of these exceedances are attributable to the conservativeness of the ESVs, but the very high magnitude of exceedances suggests that some toxic effects on some biota are possible. Thus, converting most of the Secondary Pond to terrestrial areas would not eliminate the risks from Site-related chemicals in sediments[7]. Based on the magnitude of screening quotients and potential for release of AVS bound metals with drying of sediments, the risks to ecological receptors of all biota might actually increase.

The SQs and FOEs are about as high when only risks to wildlife are considered (Table 7). This is mostly due to the fact that many ESVs did not change because wildlife were the most sensitive receptor when all four receptors groups were considered.

5. Summary of Future Risks for the Three End-Uses

To better understand the relative risks of different future environments, a summary table (Table 8) was developed to present the compounds with the highest SQ and FOE values. Compounds with average SQ values > 1 were listed for each scenario. Note that several organic compounds (e.g., phenol, 2,4-dimethylphenol) sometimes had high SQ values, but these are all readily biodegradable and soluble compounds that are not expected to persist in the biologically active zone of sediments or soils. Thus, these non-persistent chemicals were not included in the summary tables. As can be seen from the summary table,

[7] Because the deepest portions of the pond are below the surrounding water table and gravity feed outlet, converting the entire Secondary Pond to terrestrial habitat would require some filling of these deeper area. Assuming that these deeper areas were covered with clean fill, ecological risks in these now covered areas would be reduced or eliminated.

the highest SQ values pertain to the two terrestrial habitat scenarios, for which plants and worm-eating wildlife or just worm-eating wildlife were the assumed receptors that warranted protection.

Lowest SQ values would pertain to non-habitat terrestrial scenario (not shown in the Table), for which there are no functionally complete exposure pathways. For this no-habitat scenario, all SQ values would be zero. Second lowest SQ values pertain to future pond scenario, for which only the true infaunal benthos and vegetation are potentially significantly at risk. Thus, it is important to note that maintaining the Pond as a pond ecosystem, even without any remediation, poses net environment benefit because much of the pond's ecosystem processes are likely unaffected.

Highest SQ values pertain to future wetland and future terrestrial habitat scenarios. Notably, limiting the terrestrial receptors to only wildlife does not significantly reduce SQ values compared to the screening in which plants, soil biota, and wildlife are considered.

It must be understood that assessing and comparing risks based on SQ values is very imprecise because the ESVs for different chemicals and different scenarios vary, sometimes dramatically, in their levels of conservatism and scientific legitimacy. Thus, the AVS/SEM methods are probably the least conservative of the ESVs, and AVS/SEM also potentially have the strongest scientific basis. In contrast, the EcoSSLs are, and are explicitly intended to be, very conservative screening values. Moreover, scientific bases for EcoSSLsespecially for toxic effects on plants and soil biota, are often weak. Thus, a moderate exceedance of the CNE-SEM may be reasonably strong evidence of potential impacts, even stronger evidence of actual impact than a 10 or 20-fold exceedance of the selenium or manganese EcoSSL protective of plants.

Notwithstanding this very important caveat, the summary table has value in deciding which future-use scenarios potentially entail the most risk and/or require the most additional ERA analyses. For obvious reasons, the future terrestrial, no-habitat scenario has the lowest potential risks since exposure to ecological receptors are assumed to be negligible. After this, the future pond scenario likely poses the least risk because 1) water column and semi-aquatic piscivores are likely not at risk; 2) epibenthos are also potentially not at risk for much of the pond bottoms and 3) at least some of the pond bottom probably does not pose risk to true infaunal benthos. Risks to aquatic plants could not be dismissed but some aquatic macrophytes were growing in the pond. Thus, much of the pond ecosystem is not likely to be impacted.

Although SQ values for the two terrestrial habitat scenarios tend to be higher than for the wetland scenario, these higher SQ values are offset by the lower societal concern accorded to terrestrial habitats compared to wetlands. On the other hand, the very high SQ values for the wetland habitat are all based on ESVs for phytotoxic effects, and t. he ESVs for phytotoxicity are probably the least supported by good science.

6. Other Considerations

6.1 Human Health Considerations

This analysis did not consider human health risks. However, exposures to humans in the future pond scenario would be dominated by fish consumption, conservatively assuming that angling was allowed at the pond and the pond became colonized with species worth fishing. After the planned PCB removal of sediments with >25 mg/kg PCBs, the PCB SWAC will be about 1 mg/kg. Experience at other Region 5

locations suggest this level would not pose an unacceptable risk. A post-cleanup SWAC of 1 mg/kg has been deemed protective of human health in some other nearby aquatic systems managed by USEPA Region 5 (e.g., the Ottawa River and Trenton Channel of the Detroit River). Compared to a future pond ecosystem, human exposures to fish in these other two systems will be much greater, since they are large aquatic areas with fully developed fish stocks, public access to fishing, and generally lower organic carbon than the Site's sediments (about 5 percent). Moreover, if warranted, fishing in a future pond ecosystem could be prohibited through a deed restriction, mooting human risks from fish consumption. .

Human exposures for either the future wetland or terrestrial scenarios would be dominated by incidental exposures to chemicals in soils. Neither of the most problematic metals, zinc and manganese, are very toxic to humans, especially with commercial-industrial exposures. In addition, the post-remedial SWAC for PCBs is essentially equal to conservative clean-up levels of industrial/commercial soil (USEPA 2017). Human health risks are unlikely to be problematic with any of the future-use scenarios, after the PCB clean-up. This conclusion was corroborated by a simple screening of chemicals in current sediments/future soils to Michigan's Part 201 non-residential criteria for direct soil contact (Michigan DEQ 2013). Only the persistent compounds – metals and PCBs – were screened. As shown in Table 9, there was only intermittent exceedance of the arsenic, lead, and PCB direct contact criteria, the latter before but not after the future clean-up. However, average concentrations of the two metals are at acceptable concentrations (Table 9).

6.2 Clean Cover Considerations

According to the screening risk assessment, unacceptable risks from metals in sediments/soils might occur to any of the future ecosystems except the terrestrial no habitat scenario. A preferred remedial option would be placement of a layer of clean sediment/soil over the contaminated areas. One important consideration when placing a clean cover is the adequacy of depth for the different scenarios. Based on convention and ecology of dominant biota, it is concluded that the adequate depth of clean cover will be greatest for terrestrial ecosystems and wooded swamp, intermediate for emergent marsh, and least for ponded ecosystems. By convention, exposure to aquatic benthos in fine sediments is assumed to be primarily in the top several inches, so a thin layer, maybe 6-inches, would likely be sufficient to protect aquatic benthos. Detailed information on the rooting depth of submerged macrophytes and emergent vegetation could not be located. However, consideration of primary function of roots in plants -- access to water, access to nutrients, and anchoring of the plant -- would suggest that rooting depth would be minimal for submerged macrophytes. Therefore, it was assumed that 6-inches would also be sufficient to prevent toxicity to submerged macrophytes.

Emergent marsh plants would typically require more well developed roots to anchor the plants' biomass above the water and to obtain water during droughts. For planning purposes, it could be assumed that 1-foot of clean cover would be sufficient to isolate marsh plants from chemicals in the current sediments. Finally, woody plants in both swamps and terrestrial areas will likely require even deeper roots for anchoring. For the purposes of planning, it could be assumed that 2-feet of clean cover is necessary to allow woody plant colonization without plant roots encountering potentially toxic metals concentrations.

With respect to providing a cover for any of the future scenarios, two factors should be considered. First, there is a significant amount of clean soil on the Site that could be used for covering contaminated sediments

or soils. Thus, costs for providing clean cover are limited to excavation, loading, and transport to the Secondary Pond area. Second, the Site is immediately adjacent to the Saginaw WWTP. The Saginaw WWTP currently supplies sludge for application to agricultural fields. However, this sludge could also potentially be a relatively inexpensive source of carbon-rich material that would reduce the bioavailability of metals. Thus, clean cover material and sediment/soil amendments may be available at a reasonable cost.

6.3 Potential Economic and Societal Values of Future Ecosystems

A last consideration is value of the different ecosystems to RACER and the local community. Maintaining the area as a pond or converting it to wetlands would forever prevent this 25+/- acres from being redeveloped. Thus, converting the pond to terrestrial area may have the greatest value in terms of RACER being able to sell the property for a productive use (one of RACER's missions pursuant to the Bankruptcy Settlement Agreement), although it seems likely that some leveling of dikes and pond bottom would be necessary to make this developable land. On the other hand, there is ample degraded industrial land across the US. Even if the terrestrial area is unmanaged and allowed to go wild, this area is unlikely to represent good terrestrial ecological habitat for decades. Thus, the area likely has greater societal and ecological values as either a pond or wetland.

With respect to conversion of the Pond to wetlands, this area was under preliminary consideration as a location for wetlands replacement (mitigation) required when plans were being made to eliminate wetlands by construction on another part of the Site. However, the need for wetland replacement was eliminated when the developer found an alternate location for mitigation wetlands, so a more detailed assessment of the Pond's suitability as wetland for mitigation purposes was not completed. However, the Site's water balance is apparently sufficient to maintain waterlogged soils for much of the year. In theory, the area could potentially be developed into some valuable land, for example, as duck habitat or wetlands in a wetland bank. In this case, the land might allow RACER to fulfill its mission of putting properties back into productive use, which in this case would be for ecological use. However, depending where the water level was set, this wetland could be perched above the water table, which could limit its wetland values. For example, without pumping, a perched wetland could not store floodwaters from nearby water courses or capture nutrients and sediments from those watercourses. Moreover, with only precipitation as a source of water, maintaining wetlands vegetation during droughts might be difficult.

7. Concluding Statement

We would appreciate USEPA's comments and perspective on this memorandum so we can factor those into further evaluation of the end use as part of the remedy selection process. Based on information provided in this memo and RACER's mission, RACER's tentatively preferred end-use for the Secondary Pond is some combination of pond and terrestrial land. Evaluation of options will continue.

8. References

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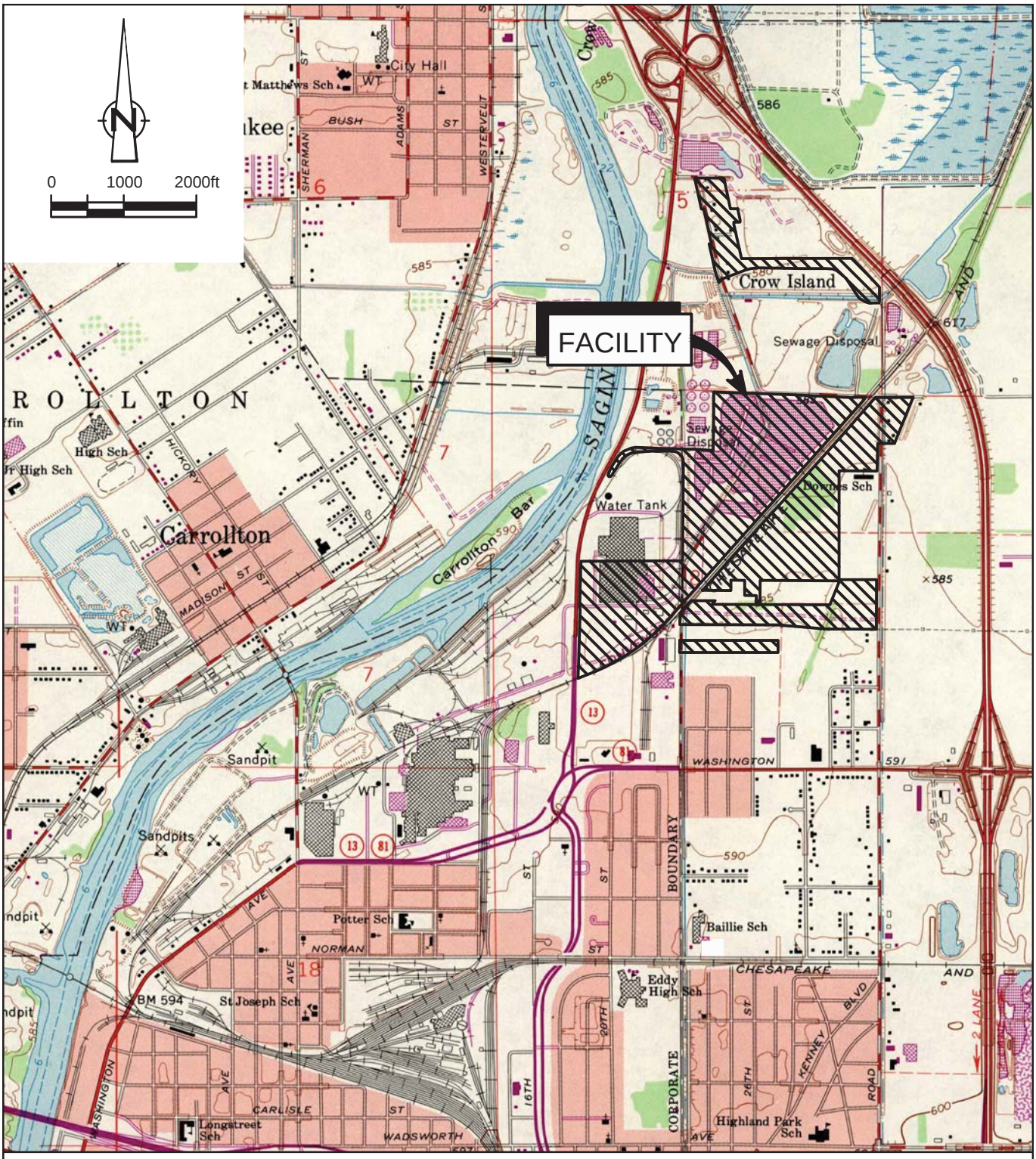
List of Figures, Tables, and Attachments



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE; SAGINAW, MICHIGAN 1967

figure 1.1

SITE LOCATION
REVITALIZING AUTOMOTIVE COMMUNITY
ENVIRONMENTAL RESPONSE
Saginaw, Michigan

SECONDARY POND

LAGOON #5

INVESTIGATIVE UNIT H

INVESTIGATIVE UNIT I

FORMER NODULAR IRON PLANT AREA

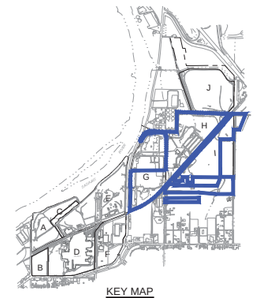
INVESTIGATIVE UNIT G

0 100 200 ft

LEGEND

INVESTIGATIVE UNIT BOUNDARY

RACER PROPERTY



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

REVITALIZING AUTO COMMUNITES ENVIRONMENTAL RESPONSE

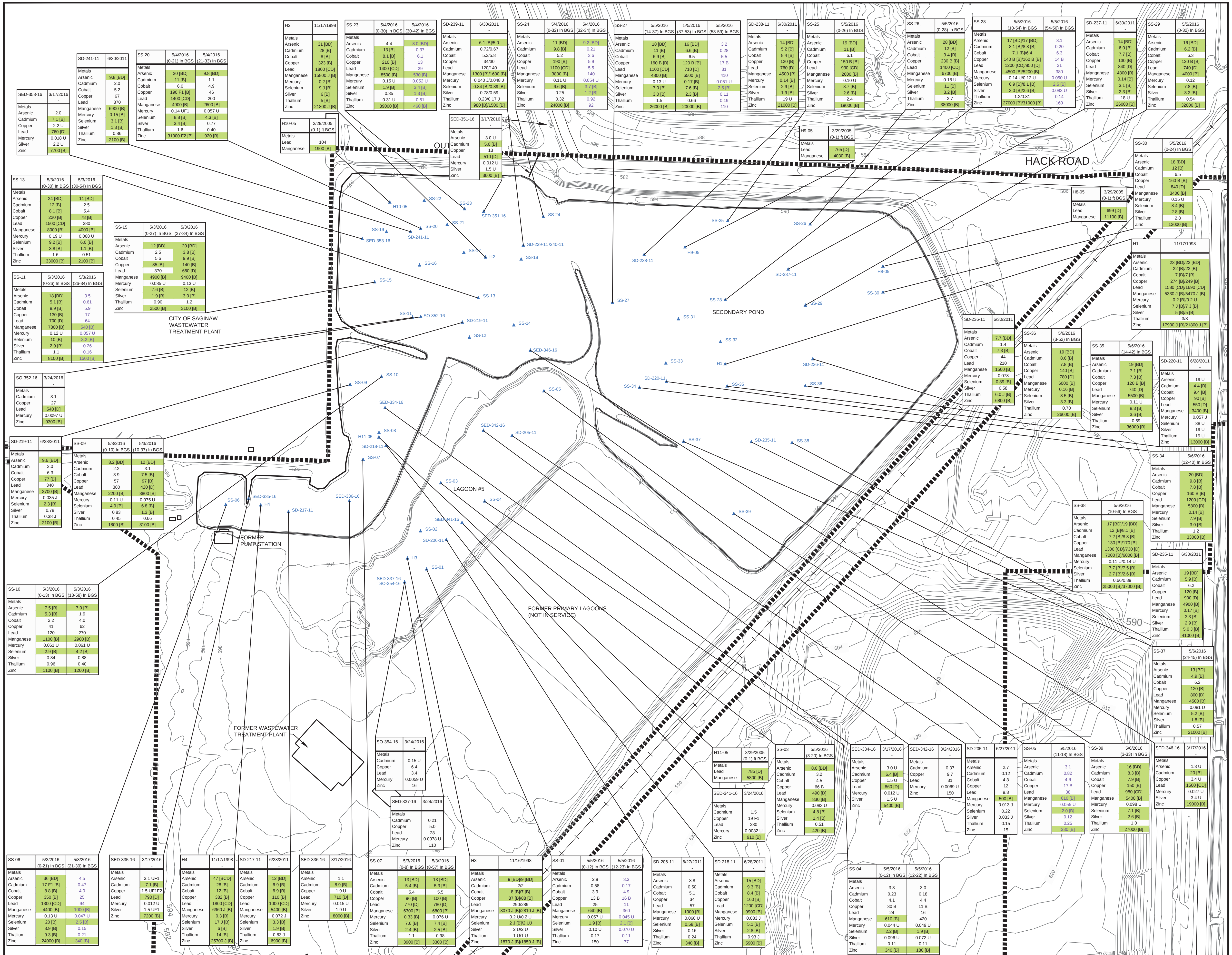
SAGINAW, MICHIGAN

SITE PLAN

GHD

Source Reference:
MICHIGAN STATE PLANE SOUTH, NAD 83 USING INTERNATIONAL FEET, NGVD 88
SPICER SURVEY, OCTOBER 2009.

Project Manager:	Reviewed By:	Date:	
I.R.	J.E.P.	OCTOBER 2016	
Scale: 1:200	Project Nº: 58502-T02	Report Nº: MEMO022	Drawing Nº: figure 1.2



H2	11/17/1998 -
Metals	
Arsenic	31 [BD]
Cadmium	28 [B]
Cobalt	8 [B]
Copper	323 [B]
Lead	1800 [CD]
Manganese	15800 J [B]
Mercury	0.2 [B]
Selenium	9 J [B]
Silver	6 [B]
Thallium	5 [B]
Zinc	21800 J [B]

SS-23	5/4/2016 (0-30) In BGS	5/4/2016 (30-42) In BGS
Metals		
Arsenic	4.4	8.0 [BD]
Cadmium	13 [B]	0.37
Cobalt	8.1 [B]	6.1
Copper	210 [B]	13
Lead	1400 [CD]	29
Manganese	8500 [B]	530 [B]
Mercury	0.15 U	0.052 U
Selenium	1.9 [B]	3.4 [B]
Silver	0.35	1.3 [B]
Thallium	0.31 U	0.51
Zinc	39000 [B]	460 [B]

SD-239-11	6/30/2011 -
Metals	
Arsenic	6.1 [B]/5.0
Cadmium	0.72/0.67
Cobalt	5.3/5.8
Copper	34/30
Lead	120/140
Manganese	1300 [B]/1600 [B]
Mercury	0.040 J/0.048 J
Selenium	0.84 [B]/0.89 [B]
Silver	0.78/0.59
Thallium	0.23/0.17 J
Zinc	980 [B]/1500 [B]

SS-24	5/4/2016 (0-32) In BGS	5/4/2016 (32-34) In BGS
Metals		
Arsenic	11 [BD]	9.2 [BD]
Cadmium	9.8 [B]	0.21
Cobalt	5.2	3.6
Copper	190 [B]	5.9
Lead	1100 [CD]	5.5
Manganese	3800 [B]	140
Mercury	0.11 U	0.054 U
Selenium	6.6 [B]	3.7 [B]
Silver	0.25	1.2 [B]
Thallium	0.32	0.92
Zinc	24000 [B]	92

SS-27	5/5/2016 (14-37) In BGS	5/5/2016 (37-53) In BGS	5/5/2016 (53-59) In BGS
Metals			
Arsenic	18 [BD]	16 [BD]	3.2
Cadmium	11 [B]	6.6 [B]	0.28
Cobalt	6.9 [B]	6.5	5.5
Copper	160 B [B]	120 B [B]	17 B
Lead	1100 [CD]	710 [D]	31
Manganese	4800 [B]	6500 [B]	410
Mercury	0.13 U	0.17 [B]	0.051 U
Selenium	7.0 [B]	7.6 [B]	2.5 [B]
Silver	3.0 [B]	2.3 [B]	0.11
Thallium	1.5	0.66	0.19
Zinc	26000 [B]	20000 [B]	110

SD-238-11	6/30/2011 -
Metals	
Arsenic	14 [BD]
Cadmium	5.2 [B]
Cobalt	8.4 [B]
Copper	120 [B]
Lead	760 [D]
Manganese	4500 [B]
Mercury	0.14 [B]
Selenium	2.9 [B]
Silver	1.9 [B]
Thallium	19 U
Zinc	21000 [B]

SS-25	5/5/2016 (0-26) In BGS
Metals	
Arsenic	19 [BD]
Cadmium	11 [B]
Cobalt	6.1
Copper	150 B [B]
Lead	930 [CD]
Manganese	2600 [B]
Mercury	0.10 U
Selenium	8.7 [B]
Silver	2.6 [B]
Thallium	2.4
Zinc	19000 [B]

SS-26	5/5/2016 (0-28) In BGS
Metals	
Arsenic	28 [BD]
Cadmium	12 [B]
Cobalt	9.4 [B]
Copper	230 B [B]
Lead	1400 [CD]
Manganese	6700 [B]
Mercury	0.18 U
Selenium	11 [B]
Silver	3.2 [B]
Thallium	2.7
Zinc	38000 [B]

SS-28	5/5/2016 (10-54) In BGS	5/5/2016 (54-56) In BGS
Metals		
Arsenic	17 [BD]/17 [BD]	3.1
Cadmium	8.1 [B]/8.8 [B]	0.20
Cobalt	7.1 [B]/6.4	6.3
Copper	140 B [B]/160 B [B]	14 B
Lead	1200 [CD]/850 [D]	21
Manganese	4500 [B]/5200 [B]	380
Mercury	0.14 U/0.12 U	0.050 U
Selenium	6.9 [B]/8.1 [B]	2.5 [B]
Silver	3.0 [B]/2.6 [B]	0.083 U
Thallium	1.2/0.81	0.14
Zinc	27000 [B]/31000 [B]	160

SD-237-11	6/30/2011 -
Metals	
Arsenic	14 [BD]
Cadmium	6.0 [B]
Cobalt	7.7 [B]
Copper	130 [B]
Lead	840 [D]
Manganese	4800 [B]
Mercury	0.14 [B]
Selenium	3.1 [B]
Silver	2.3 [B]
Thallium	18 U
Zinc	26000 [B]

SS-29	5/5/2016 (0-32) In BGS
Metals	
Arsenic	16 [BD]
Cadmium	6.2 [B]
Cobalt	6.3
Copper	120 B [B]
Lead	740 [D]
Manganese	4000 [B]
Mercury	0.12
Selenium	7.8 [B]
Silver	3.2 [B]
Thallium	0.54
Zinc	32000 [B]

SD-241-11	6/30/2011 -
Metals	
Arsenic	9.8 [BD]
Cadmium	2.0
Cobalt	5.2
Copper	67
Lead	370
Manganese	6900 [B]
Mercury	0.15 [B]
Selenium	3.1 [B]
Silver	1.3 [B]
Thallium	0.86
Zinc	2100 [B]

SS-20	5/4/2016 (0-21) In BGS	5/4/2016 (21-33) In BGS
Metals		
Arsenic	20 [BD]	9.8 [BD]
Cadmium	11 [B]	1.1
Cobalt	6.0	4.9
Copper	190 F1 [B]	46
Lead	1400 [CD]	200
Manganese	4900 [B]	2600 [B]
Mercury	0.14 UF1	0.057 U
Selenium	8.8 [B]	4.3 [B]
Silver	3.4 [B]	0.77
Thallium	1.6	0.40
Zinc	31000 F2 [B]	920 [B]

SED-353-16	3/17/2016 -
Metals	
Arsenic	2.0
Cadmium	7.1 [B]
Copper	2.2 U
Lead	760 [D]
Mercury	0.018 U
Silver	2.2 U
Zinc	7700 [B]

H10-05	3/29/2005 (0-1) ft BGS
Metals	
Lead	104
Manganese	1900 [B]

SED-351-16	3/17/2016 -
Metals	
Arsenic	3.0 U
Cadmium	5.0 [B]
Copper	13
Lead	510 [D]
Mercury	0.012 U
Silver	1.5 U
Zinc	3600 [B]

H9-05	3/29/2005 (0-1) ft BGS
Metals	
Lead	765 [D]
Manganese	4030 [B]

SS-13	5/3/2016 (0-30) In BGS	5/3/2016 (30-54) In BGS
Metals		
Arsenic	24 [BD]	11 [BD]
Cadmium	12 [B]	2.5
Cobalt	8.1 [B]	5.4
Copper	220 [B]	78 [B]
Lead	1500 [CD]	380
Manganese	8000 [B]	4000 [B]
Mercury	0.19 U	0.068 U
Selenium	9.2 [B]	6.0 [B]
Silver	3.8 [B]	1.1 [B]
Thallium	1.6	0.51
Zinc	33000 [B]	2100 [B]

SS-15	5/3/2016 (0-27) In BGS	5/3/2016 (27-34) In BGS
Metals		
Arsenic	12 [BD]	20 [BD]
Cadmium	2.5	3.8 [B]
Cobalt	5.6	9.9 [B]
Copper	85 [B]	140 [B]
Lead	370	660 [D]
Manganese	4900 [B]	9400 [B]
Mercury	0.085 U	0.13 U
Selenium	7.6 [B]	12 [B]
Silver	1.9 [B]	3.0 [B]
Thallium	0.90	1.2
Zinc	2500 [B]	3100 [B]

SS-11	5/3/2016 (0-26) In BGS	5/3/2016 (26-34) In BGS
Metals		
Arsenic	18 [BD]	3.5
Cadmium	5.1 [B]	0.61
Cobalt	8.9 [B]	5.9
Copper	130 [B]	17
Lead	700 [D]	64
Manganese	7800 [B]	540 [B]
Mercury	0.12 U	0.057 U
Selenium	10 [B]	3.2 [B]
Silver	2.9 [B]	0.26
Thallium	1.1	0.16
Zinc	8100 [B]	1500 [B]

SO-352-16	3/24/2016 -
Metals	
Cadmium	3.1
Copper	27
Lead	540 [D]
Mercury	0.0097 U
Zinc	9300 [B]

SD-219-11	6/28/2011 -
Metals	
Arsenic	9.6 [BD]
Cadmium	3.0
Cobalt	6.3
Copper	77 [B]
Lead	340
Manganese	3700 [B]
Mercury	0.035 J
Selenium	2.3 [B]
Silver	0.78
Thallium	0.38 J
Zinc	2100 [B]

SS-09	5/3/2016 (0-10) In BGS	5/3/2016 (10-37) In BGS
Metals		
Arsenic	8.2 [BD]	12 [BD]
Cadmium	2.2	3.1
Cobalt	3.9	7.5 [B]
Copper	57	97 [B]
Lead	380	420 [D]
Manganese	2200 [B]	3800 [B]
Mercury	0.11 U	0.075 U
Selenium	4.9 [B]	6.8 [B]
Silver	0.83	1.3 [B]
Thallium	0.45	0.66
Zinc	1800 [B]	3100 [B]

SS-10	5/3/2016 (0-13) In BGS	5/3/2016 (13-58) In BGS
Metals		
Arsenic	7.5 [B]	7.0 [B]
Cadmium	5.3 [B]	1.9
Cobalt	2.2	4.0
Copper	41	62
Lead	120	270
Manganese	1100 [B]	2900 [B]
Mercury	0.061 U	0.061 U
Selenium	2.9 [B]	4.2 [B]
Silver	0.34	0.88
Thallium	0.96	0.40
Zinc	1100 [B]	1200 [B]

SS-06	5/3/2016 (0-21) In BGS	5/3/2016 (21-30) In BGS
Metals		
Arsenic	36 [BD]	4.5
Cadmium	17 F1 [B]	0.47
Cobalt	8.8 [B]	4.0
Copper	350 [B]	25
Lead	1300 [CD]	94
Manganese	4400 [B]	1000 [B]
Mercury	0.13 U	0.047 U
Selenium	20 [B]	2.5 [B]
Silver	3.9 [B]	0.15
Thallium	9.3 [B]	0.21
Zinc	24000 [B]	340 [B]

SED-335-16	3/17/2016 -
Metals	
Arsenic	3.1 UF1
Cadmium	7.1 [B]
Copper	1.5 UF1F2
Lead	790 [D]
Mercury	0.012 U
Silver	1.5 UF1
Zinc	7200 [B]

H4	11/17/1998 -
Metals	
Arsenic	47 [BCD]
Cadmium	28 [B]
Cobalt	12 [B]
Copper	382 [B]
Lead	1800 [CD]
Manganese	6960 J [B]
Mercury	0.3 [B]
Selenium	17 J [B]
Silver	6 [B]
Thallium	14 [B]
Zinc	25700 J [B]

SD-217-11	6/28/2011 -
Metals	
Arsenic	12 [BD]
Cadmium	6.9 [B]
Cobalt	6.9 [B]
Copper	110 [B]
Lead	1000 [CD]
Manganese	5400 [B]
Mercury	0.072 J
Selenium	3.3 [B]
Silver	1.9 [B]
Thallium	0.83 J
Zinc	6900 [B]

SED-336-16	3/17/2016 -
Metals	
Arsenic	1.1
Cadmium	8.9 [B]
Copper	1.9 U
Lead	710 [D]
Mercury	0.015 U
Silver	1.9 U
Zinc	8000 [B]

SO-354-16	3/24/2016 -
Metals	
Cadmium	0.15 U
Copper	6.4
Lead	3.4
Mercury	0.0059 U
Zinc	16

SED-337-16	3/24/2016 -
Metals	
Cadmium	0.21
Copper	5.0
Lead	28
Mercury	0.0078 U
Zinc	110

SS-07	5/3/2016 (0-8) In BGS	5/3/2016 (8-57) In BGS
Metals		
Arsenic	13 [BD]	13 [BD]
Cadmium	5.4 [B]	5.3 [B]
Cobalt	5.4	5.5
Copper	96 [B]	100 [B]
Lead	770 [D]	780 [D]
Manganese	6300 [B]	6800 [B]
Mercury	0.33 [B]	0.076 U
Selenium	7.6 [B]	7.4 [B]
Silver	2.4 [B]	2.5 [B]
Thallium	1.1	0.98
Zinc	3900 [B]	3300 [B]

H3	11/16/1998 -
Metals	
Arsenic	9 [BD]/9 [BD]
Cadmium	2/2
Cobalt	8 [B]/7 [B]
Copper	87 [B]/88 [B]
Lead	290/289
Manganese	3070 J [B]/2810 J [B]
Mercury	0.2 U/0.2 U
Selenium	2 J [B]/2 UJ
Silver	2 U/2 U
Thallium	1 U/1 U
Zinc	1870 J [B]/1850 J [B]

SS-01	5/5/2016 (0-12) In BGS	5/5/2016 (12-23) In BGS
Metals		
Arsenic	2.8	3.3
Cadmium	0.58	0.17
Cobalt	3.9	4.9
Copper	13 B	16 B
Lead	25	11
Manganese	640 [B]	360
Mercury	0.057 U	0.045 U
Selenium	1.9 [B]	2.1 [B]
Silver	0.10 U	0.070 U
Thallium	0.17	0.11
Zinc	150	77

SD-206-11	6/27/2011 -
Metals	
Arsenic	3.8
Cadmium	0.50
Cobalt	5.1
Copper	34
Lead	57
Manganese	1000 [B]
Mercury	0.060 U
Selenium	0.58 [B]
Silver	0.16
Thallium	0.24
Zinc	340 [B]

SD-218-11	6/28/2011 -
Metals	
Arsenic	15 [BD]
Cadmium	9.3 [B]
Cobalt	8.4 [B]
Copper	160 [B]
Lead	1200 [CD]
Manganese	9900 [B]
Mercury	0.083 J
Selenium	5.1 [B]
Silver	2.8 [B]
Thallium	0.93 J
Zinc	5900 [B]

H11-05	3/29/2005 (0-1) ft BGS
Metals	
Lead	785 [D]
Manganese	5800 [B]

SED-341-16	3/24/2016 -
Metals	
Cadmium	1.5
Copper	19 F1
Lead	280
Mercury	0.0082 U
Zinc	910 [B]

SS-03	5/5/2016 (3-20) In BGS
Metals	
Arsenic	8.0 [BD]
Cadmium	3.2
Cobalt	4.5
Copper	66 B
Lead	490 [D]
Manganese	830 [B]
Mercury	0.083 U
Selenium	4.8 [B]
Silver	1.4 [B]
Thallium	0.51
Zinc	420 [B]

SED-334-16	3/17/2016 -
Metals	
Arsenic	3.0 U
Cadmium	6.4 [B]
Copper	1.5 U
Lead	860 [D]
Mercury	0.012 U
Silver	1.5 U
Zinc	5400 [B]

SED-342-16	3/24/2016 -
Metals	
Cadmium	0.37
Copper	9.7
Lead	31
Mercury	0.0069 U
Zinc	150

SD-205-11	6/27/2011 -
Metals	
Arsenic	2.7
Cadmium	0.12
Cobalt	4.8
Copper	12
Lead	9.8
Manganese	500 [B]
Mercury	0.013 J
Selenium	0.22
Silver	0.033 J
Thallium	0.15
Zinc	15

SS-04	5/5/2016 (0-12) In BGS	5/5/2016 (12-22) In BGS
Metals		
Arsenic	3.3	3.0
Cadmium	0.23	0.18
Cobalt	4.1	4.4
Copper	30 B	11 B
Lead	24	16
Manganese	610 [B]	420
Mercury	0.044 U	0.049 U
Selenium	2.2 [B]	1.9 [B]
Silver	0.096 U	0.072 U
Thallium	0.11	0.11
Zinc	340 [B]	180 [B]

SS-05	5/5/2016 (11-18) In BGS
Metals	
Arsenic	3.1
Cadmium	0.82
Cobalt	4.6
Copper	17 B
Lead	38
Manganese	610 [B]
Mercury	0.055 U
Selenium	2.0 [B]
Silver	0.12
Thallium	0.25
Zinc	230 [B]

SS-39	5/6/2016 (3-33) In BGS
Metals	
Arsenic	16 [BD]
Cadmium	8.3 [B]
Cobalt	7.9 [B]
Copper	150 [B]
Lead	980 [CD]
Manganese	5400 [B]
Mercury	0.098 U
Selenium	7.1 [B]
Silver	2.6 [B]
Thallium	1.0
Zinc	27000 [B]

SED-346-16	3/17/2016 -
Metals	
Arsenic	1.3 U
Cadmium	20 [B]
Copper	3.4 U
Lead	1500 [CD]
Mercury	0.027 U
Silver	3.4 U
Zinc	19000 [B]

SS-37	5/6/2016 (24-45) In BGS
Metals	
Arsenic	13 [BD]
Cadmium	4.9 [B]
Cobalt	6.2
Copper	120 [B]
Lead	800 [D]
Manganese	4500 [B]
Mercury	0.081 U
Selenium	5.2 [B]
Silver	1.8 [B]
Thallium	0.57
Zinc	21000 [B]

SD-235-11	6/30/2011 -
Metals	
Arsenic	19 [BD]
Cadmium	5.9 [B]
Cobalt	6.2
Copper	120 [B]
Lead	900 [D]
Manganese	4900 [B]
Mercury	0.17 [B]
Selenium	3.3 [B]
Silver	2.9 [B]
Thallium	5.0 J [B]
Zinc	41000 [B]

SS-38	5/6/2016 (10-56) In BGS
Metals	
Arsenic	17 [BD]/19 [BD]
Cadmium	12 [B]/8.1 [B]
Cobalt	7.2 [B]/8.8 [B]
Copper	130 [B]/170 [B]
Lead	1300 [CD]/730 [D]
Manganese	7000 [B]/6000 [B]
Mercury	0.11 U/0.14 U
Selenium	7.7 [B]/7.5 [B]
Silver	2.7 [B]/2.6 [B]
Thallium	0.66/0.89
Zinc	25000 [B]/37000 [B]

SS-34	5/6/2016 (12-40) In BGS
Metals	
Arsenic	20 [BD]
Cadmium	9.8 [B]
Cobalt	7.8 [B]
Copper	160 B [B]
Lead	1200 [CD]
Manganese	5800 [B]
Mercury	0.14 [B]
Selenium	7.9 [B]
Silver	3.0 [B]
Thallium	1.2
Zinc	33000 [B]

SD-220-11	6/28/2011 -
Metals	
Arsenic	19 U
Cadmium	4.4 [B]
Cobalt	9.4 [B]
Copper	90 [B]
Lead	550 [D]
Manganese	3400 [B]
Mercury	0.057 J
Selenium	38 U
Silver	19 U
Thallium	19 U
Zinc	13000 [B]

SS-35	5/6/2016 (14-42) In BGS
Metals	
Arsenic	19 [BD]
Cadmium	7.1 [B]
Cobalt	7.3 [B]
Copper	120 B [B]
Lead	740 [D]
Manganese	5500 [B]
Mercury	0.11 U
Selenium	8.3 [B]
Silver	3.6 [B]
Thallium	0.59
Zinc	36000 [B]

SS-36	5/6/2016 (3-52) In BGS
Metals	
Arsenic	19 [BD]
Cadmium	8.6 [B]
Cobalt	7.8 [B]
Copper	140 [B]
Lead	780 [D]
Manganese	6000 [B]
Mercury	0.16 [B]
Selenium	8.5 [B]
Silver	3.3 [B]
Thallium	0.70
Zinc	26000 [B]

SD-236-11	6/30/2011 -
Metals	
Arsenic	7.7 [BD]
Cadmium	1.4
Cobalt	7.3 [B]
Copper	44
Lead	210
Manganese	1500 [B]
Mercury	0.078
Selenium	0.89 [B]
Silver	0.58
Thallium	6.0 J [B]
Zinc	6800 [B]

H1	11/17/1998 -
Metals	
Arsenic	23 [BD]/22 [BD]
Cadmium	22 [B]/22 [B]
Cobalt	7 [B]/7 [B]
Copper	274 [B]/249 [B]
Lead	1580 [CD]/1690 [CD]
Manganese	5330 J [B]/5470 J [B]
Mercury	0.2 [B]/0.2 U
Selenium	7 J [B]/7 J [B]
Silver	5 [B]/5 [B]
Thallium	3/3
Zinc	17900 J [B]/21800 J [B]

SS-30	5/5/2016 (0-24) In BGS
Metals	
Arsenic	18 [BD]
Cadmium	12 [B]
Cobalt	6.5
Copper	160 B [B]
Lead	840 [D]
Manganese	3400 [B]
Mercury	0.15 U
Selenium	8.4 [B]
Silver	2.8 [B]
Thallium	2.8
Zinc	12000 [B]

H8-05	3/29/2005 (0-1) ft BGS
Metals	
Lead	699 [D]
Manganese	11100 [B]

N

0 60 120 ft

LEGEND

A — — INVESTIGATIVE UNIT BOUNDARY AND IDENTIFIER

APPROXIMATE LIMITS OF RACER PROPERTY

—590— EXISTING GROUND CONTOUR (NGVD)

▲ SEDIMENT SAMPLE LOCATION

SAMPLE LOCATION

SAMPLE DATE

SAMPLE DEPTH

RESULT (mg/kg)

PARAMETER

EXCEEDANCE OF CRITERIA

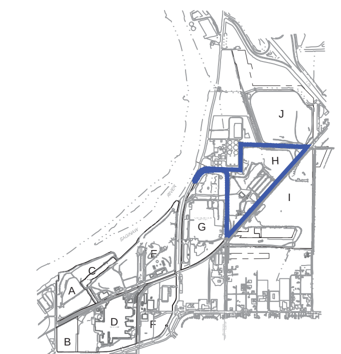
0.050 CLAY SAMPLE

H8-05	3/29/2005 (0-1) ft BGS
Metals	
Lead	699 [D]
Manganese	11100 [B]

Parameter	A	B	C	D	Unit
Arsenic	5.8	4.6	37	7.6	mg/kg
Cadmium	1.2	3.7	2100	550	mg/kg
Cobalt	6.8	2	9000	2600	mg/kg
Copper	32	74.73	73000	20000	mg/kg
Lead	21	5170	900	400	mg/kg
Manganese	440	57.5	90000	25000	mg/kg
Mercury	0.13	0.1	580	160	mg/kg
Selenium	0.41	0.4	9600	2600	mg/kg
Silver	1	0.1	9000	2500	mg/kg
Thallium	-	4.2	130	35	mg/kg
Zinc	47	169.2	630000	170000	mg/kg

Notes:
A: Res/Non_Res/Statewide Default Bkgd Levels
B: Res/Non_Res/GW Prot_GW SW Interface Prot
C: Non_RES/Direct Contact
D: Res/Direct Contact_Direct Contact

SOURCES:
EXISTING GROUND CONTOURS ARE DERIVED FROM:
TOPOGRAPHY DRAWING RECEIVED FROM SANBORN (AN AERIAL PHOTOGRAPHY COMPANY)
JANUARY 3, 1996 - STATE PLANE;
2009 SURVEY OF CLAY PILE BY SPICER;
2013 SURVEY OF SAND/CLAY PILES BY WILCOX.
2016 SURVEY OF SEDIMENT SAMPLES BY NORMANDEAU ASSOCIATES, INC.



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

REVITALIZING AUTOMOTIVE COMMUNITY ENVIRONMENTAL RESPONSE

SAGINAW, MICHIGAN

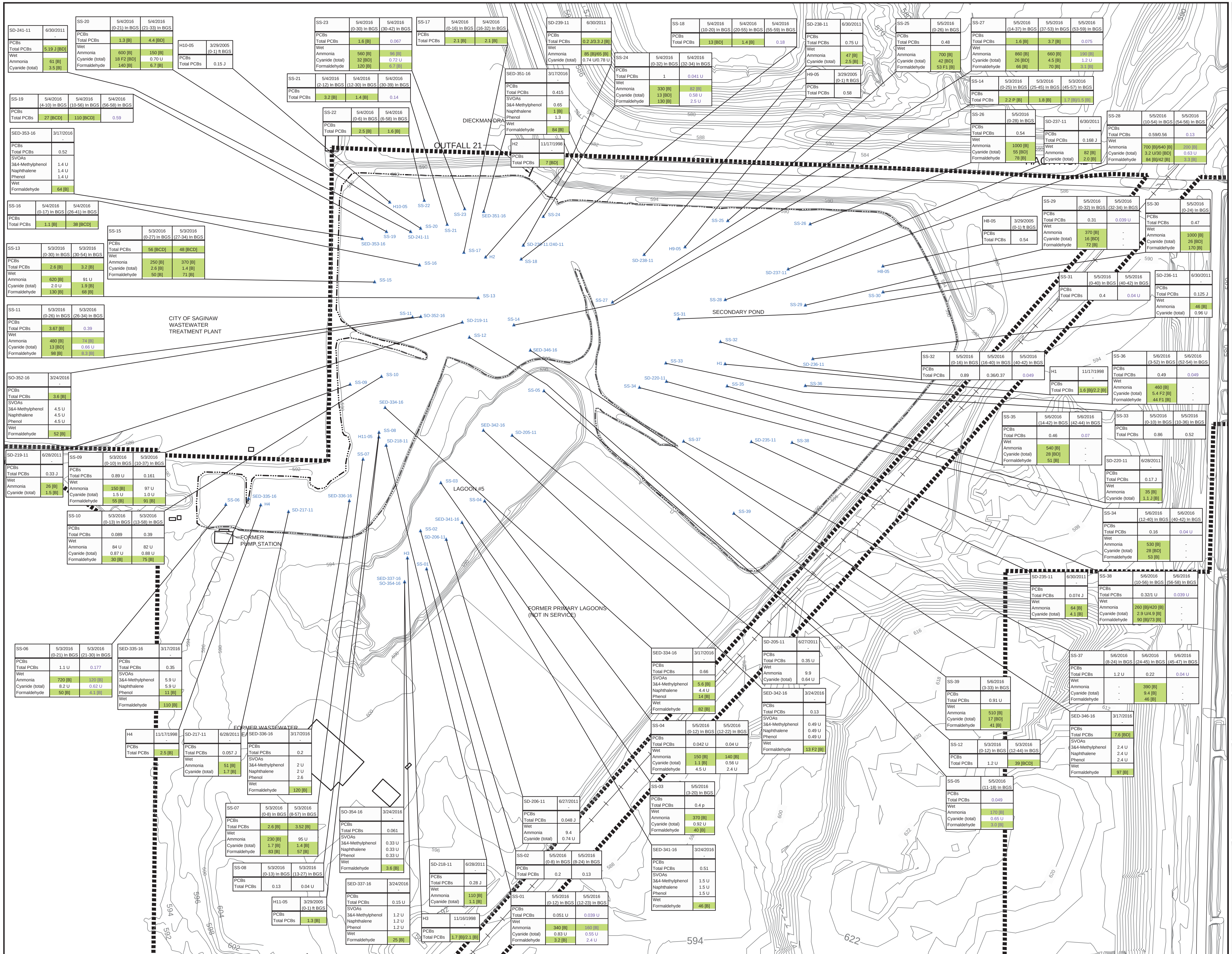
ADDITIONAL SECONDARY POND AND LAGOONS CHARACTERIZATION - SUMMARY OF EXCEEDANCES METALS

GHD

Source Reference:
MICHIGAN STATE PLANE SOUTH, NAD 83 USING INTERNATIONAL FEET, NGVD 88
TOPO - SANBORN, 1996

Project Manager: I.R.	Reviewed By: M.T.	Date: MAY 2016	
Scale: 1" = 120'	Project Nº: 58502-T02	Report Nº: MEMO019	Drawing Nº: figure 2.1

58502-T02(MEMO019)GN-WA002 MAY 26, 2016



N
0 60 120 ft

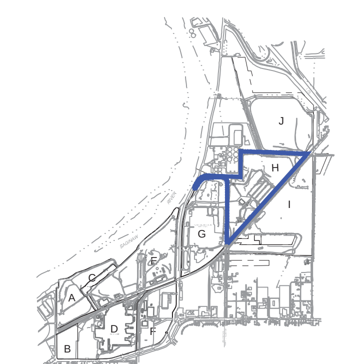
LEGEND

A — — INVESTIGATIVE UNIT BOUNDARY AND IDENTIFIER
APPROXIMATE LIMITS OF RACER PROPERTY
590 EXISTING GROUND CONTOUR (NGVD)
SEDIMENT SAMPLE LOCATION
SS-26 SAMPLE LOCATION
5/5/2016 SAMPLE DATE
(0-28) ft BGS SAMPLE DEPTH
0.54 RESULT (mg/kg)
PCBs Total PCBs PARAMETER
EXCEEDANCE OF CRITERIA
0.050 CLAY SAMPLE

Parameter	A	B	C	D	Unit
3&4-Methylphenol	-	1	36000	11000	mg/kg
Ammonia	-	15.3	-	-	mg/kg
Cyanide (total)	0.39	0.1	250	12	mg/kg
Formaldehyde	-	2.4	130000	41000	mg/kg
Naphthalene	-	0.73	52000	16000	mg/kg
Phenol	-	9	230000	40000	mg/kg
Total PCBs	-	1	16	4	mg/kg

Notes:
A: Res/Non_Res/Statewide Default Bkgd Levels
B: Res/Non_Res/GW Prot_GW SW Interface Prot
C: Non_RES/Direct Contact
D: Res/Direct Contact_Direct Contact

SOURCES:
EXISTING GROUND CONTOURS ARE DERIVED FROM:
TOPOGRAPHY DRAWING RECEIVED FROM SANBORN (AN AERIAL PHOTOGRAPHY COMPANY)
JANUARY 3, 1996 - STATE PLANE;
2009 SURVEY OF CLAY PILE BY SPICER;
2013 SURVEY OF SAND/CLAY PILES BY WILCOX.
2016 SURVEY OF SEDIMENT SAMPLES BY NORMANDEAU ASSOCIATES, INC.



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

REVITALIZING AUTOMOTIVE COMMUNITY ENVIRONMENTAL RESPONSE

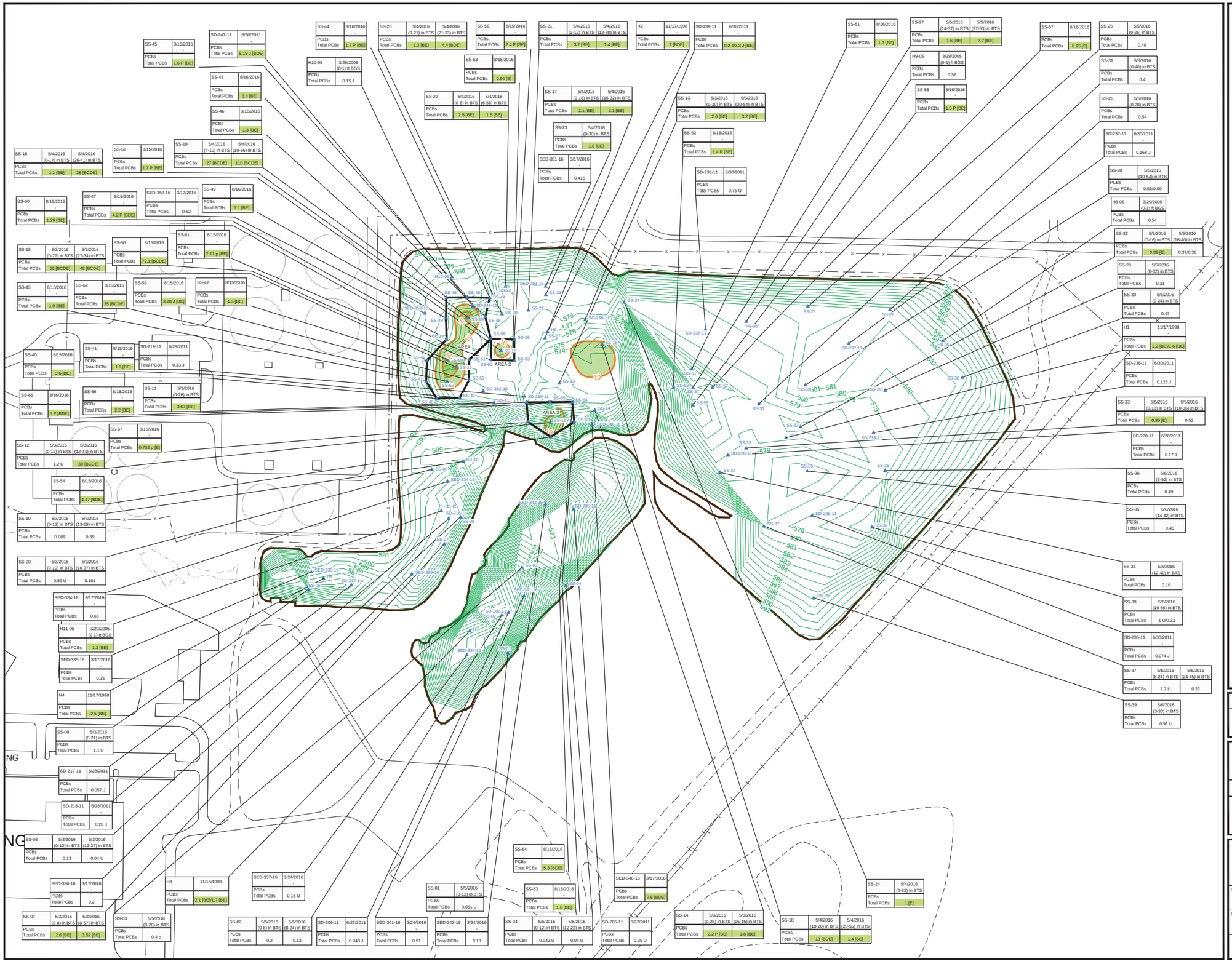
SAGINAW, MICHIGAN

ADDITIONAL SECONDARY POND AND LAGOONS CHARACTERIZATION - SUMMARY OF EXCEEDANCES NON-METALS

GHD

Source Reference:
MICHIGAN STATE PLANE SOUTH, NAD 83 USING INTERNATIONAL FEET, NGVD 88
TOPO - SANBORN, 1996

Project Manager: I.R.	Reviewed By: M.T.	Date: MAY 2016	
Scale: 1" = 120'	Project Nº: 58502-T02	Report Nº: MEMO019	Drawing Nº: figure 2.2



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

REVITALIZING AUTOMOTIVE COMMUNITY ENVIRONMENTAL RESPONSE

SAGINAW, MICHIGAN

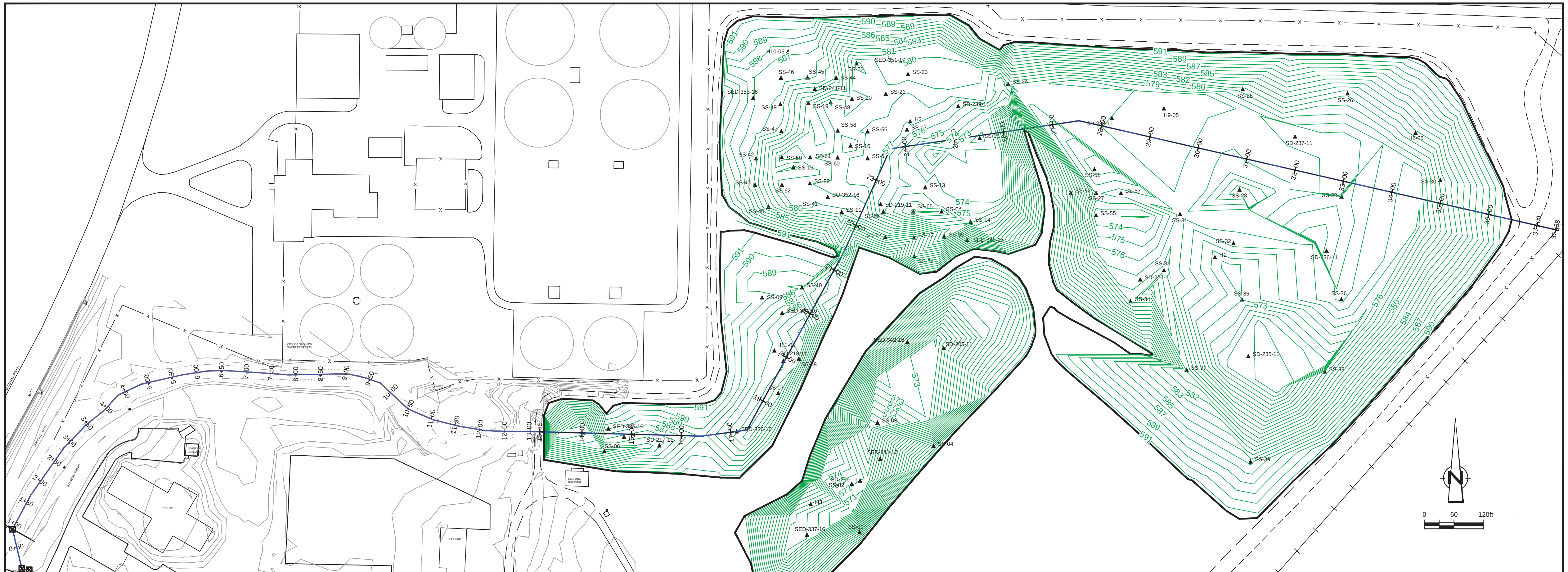
SECONDARY POND AND LAGOON:
SEDIMENT - PCBs

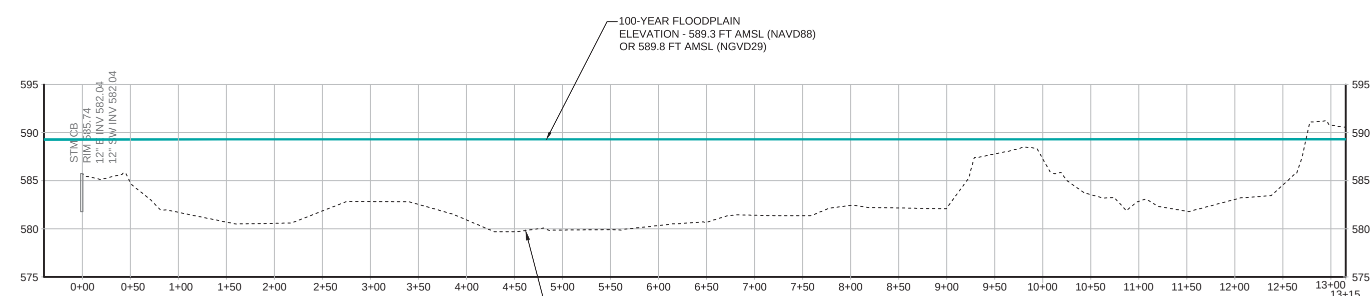
GHD

Source Reference:
2016 SURVEY OF SEDIMENT SAMPLES BY NORMANDEAU ASSOCIATES, INC. (05/2016) AND SPICER GROUP, INC. (08/2016).

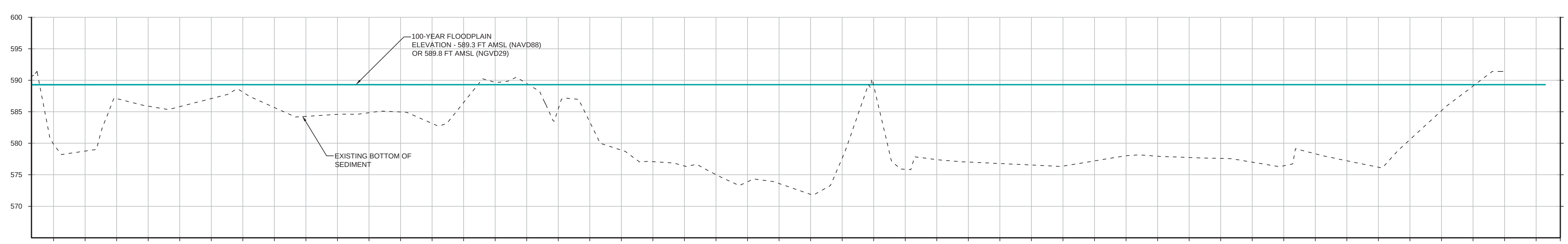
Project Manager:	Reviewed By:	Date:
I.R.	M.T.	SEPTEMBER 2016
Scale: 1" = 120'	Project Nº: 58502-T02	Report Nº: 014 / Drawing Nº: figure 2.3

58502-T02(014)GN-WA001 SEP 29, 2016





NORTH DITCH PROFILE
SCALE:
HORIZ. 1" = 100'
VERT. 1" = 10'



POND PROFILE
SCALE:
HORIZ. 1" = 100'
VERT. 1" = 10'

Nº	Revision	Date	Initial

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SEDIMENT CONTOUR
- RACER PROPERTY BOUNDARY
- FENCE
- CB ■ PROPOSED CATCHBASIN
- EXISTING CATCHBASIN
- 100-YEAR FLOODPLAIN ELEVATION - 589.3 FT AMSL (NAVD88) OR 589.8 FT AMSL (NGVD29)
- CROSS SECTION LINE

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL RESPONSE

SAGINAW NODULAR INDUSTRIAL LAND

CROSS SECTIONS

Source Reference:

Project Manager: JEP	Reviewed By: JEP	Date: AUGUST 2017	
Scale: AS SHOWN	Project Nº: 058502-T09	Report Nº: MEMO022	Drawing Nº: FIGURE 2.4

058502-T09(MEMO022)GN-DE001 AUG 17, 2017

SED-353-16	3/17/2016
Carbon-Normalized Excess SEM	872.32
SEM/AVS	1.4

SD-241-11	6/30/2011
Carbon-Normalized Excess SEM	89.49
SEM/AVS	1.3

SD-219-11	6/28/2011
Carbon-Normalized Excess SEM	181.63
SEM/AVS	2.6

SED-351-16	3/17/2016
Carbon-Normalized Excess SEM	866.53
SEM/AVS	2.7

SD-239-11	6/30/2011
Carbon-Normalized Excess SEM	341.13/792.34
SEM/AVS	3.6/3.6

SED-346-16	3/17/2016
Carbon-Normalized Excess SEM	-5466.04
SEM/AVS	0.54

SD-238-11	6/30/2011
Carbon-Normalized Excess SEM	6918.43
SEM/AVS	5.4

SED-334-16	3/17/2016
Carbon-Normalized Excess SEM	-21.68
SEM/AVS	0.96

SED-342-16	3/24/2016
Carbon-Normalized Excess SEM	-196.20
SEM/AVS	0.25

SD-218-11	6/28/2011
Carbon-Normalized Excess SEM	739.75
SEM/AVS	3.6

SED-335-16	3/17/2016
Carbon-Normalized Excess SEM	624.25
SEM/AVS	1.2

SD-217-11	6/28/2011
Carbon-Normalized Excess SEM	1255.70
SEM/AVS	5.3

SED-336-16	3/17/2016
Carbon-Normalized Excess SEM	280.16
SEM/AVS	1.1

SED-337-16	3/24/2016
Carbon-Normalized Excess SEM	-569.80
SEM/AVS	0.078

SD-206-11	6/27/2011
Carbon-Normalized Excess SEM	-133.55
SEM/AVS	0.52

SED-341-16	3/24/2016
Carbon-Normalized Excess SEM	-269.87
SEM/AVS	0.59

SD-205-11	6/27/2011
Carbon-Normalized Excess SEM	-56.71
SEM/AVS	0.53

SD-237-11	6/30/2011
Carbon-Normalized Excess SEM	6436.08
SEM/AVS	7.6

SD-236-11	6/30/2011
Carbon-Normalized Excess SEM	7434.10
SEM/AVS	11

SD-220-11	6/28/2011
Carbon-Normalized Excess SEM	1709.06
SEM/AVS	8.8

SD-235-11	6/30/2011
Carbon-Normalized Excess SEM	7570.93
SEM/AVS	8.8

PLEASE NOTE THAT THERE IS NO WATER IN THIS AREA

REMAINING STANDING WATER AS OF OCTOBER 7, 2016

PLEASE NOTE THIS POND STILL FILLED WITH WATER

AREA 1

AREA 2

AREA 3

0 50 100 ft

LEGEND

590 TOP OF SEDIMENT CONTOUR

EDGE OF POND

SEDIMENT AND/OR CLAY SAMPLE LOCATION

10 PCB CONTOUR (ppm)

EXTENT OF PCB IMPACTED SEDIMENT PROPOSED FOR REMOVAL

CARBON NORMALIZED EXCESS SEM (CNE-SEM)
< 130 umol/gram - NON-TOXIC
>130 umol/gram TO 3,000 umol/gram - POTENTIALLY TOXIC
>3000 umol/gram - MOST LIKELY TOXIC

NOTE:
DATABOXES ARE ONLY PROVIDED FOR THOSE LOCATIONS WHICH HAD THE SAMPLES ANALYZED FOR AVS/SEM. IF NO DATABOX IS PROVIDED WITH A SAMPLE LOCATION, AVS/SEM WAS NOT ANALYZED.

KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

REVITALIZING AUTOMOTIVE COMMUNITY ENVIRONMENTAL RESPONSE

SAGINAW, MICHIGAN

ECOLOGICAL SCREENING SUMMARY

GHD

Source Reference:
2016 SURVEY OF SEDIMENT SAMPLES BY NORMANDEAU ASSOCIATES, INC. (05/2016) AND SPICER GROUP, INC. (08/2016).

Project Manager:	Reviewed By:	Date:	
I.R.	J.E.P.	OCTOBER 2016	
Scale: AS SHOWN	Project Nº: 58502-T02	Report Nº: MEMO022	Drawing Nº: figure 4.1

58502-T02(MEMO022)GN-WA001 AUG 18, 2017

Table 1

Screening of Water Column Data from Main Body of Secondary Pond

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	ESV	ESV Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
VOAs												
No detections in 6 samples												
SVOAs												
No detections in 6 samples												
Metals												
Aluminum	mg/L	0.087	USEPA	6	100%	0.19	0.12	0.12	2.18	1.33	**1.33**	**83%**
Antimony	mg/L	0.240	Michigan	6	0%	0.00	0.001	0.00	0.00	0.00	0.00	0%
Antimony, total recoverable	mg/L	0.240	Michigan	11	100%	0.00	0.00	0.00	0.00	0.00	0.00	0%
Arsenic	mg/L	0.150	Michigan	6	0%	0.00	0.00	0.00	0.00	0.02	0.00	0%
Arsenic, total recoverable	mg/L	0.150	Michigan	11	100%	0.00	0.00	0.00	0.02	0.02	0.02	0%
Barium	mg/L	1.380	Michigan	6	0%	0.00	0.05	0.00	0.00	0.04	0.00	0%
Barium, total recoverable	mg/L	1.380	Michigan	11	100%	0.05	0.04	0.04	0.03	0.03	0.03	0%
Beryllium	mg/L	0.037	Michigan	6	0%	0.00	0.00	0.00	0.00	0.01	0.00	0%
Beryllium, total recoverable	mg/L	0.037	Michigan	11	0%	0.00	0.00	0.00	0.00	0.01	0.00	0%
Cadmium	mg/L	0.006	Michigan	6	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Cadmium, total recoverable	mg/L	0.006	Michigan	11	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Chromium	mg/L	0.209	Michigan	6	0%	0.00	0.01	0.00	0.00	0.02	0.00	0%
Chromium, total recoverable	mg/L	0.209	Michigan	11	0%	0.00	0.00	0.00	0.00	0.01	0.00	0%
Cobalt	mg/L	0.100	Michigan	6	0%	0.00	0.01	0.00	0.00	0.10	0.00	0%
Cobalt, total recoverable	mg/L	0.100	Michigan	11	100%	0.00	0.00	0.00	0.00	0.00	0.00	0%
Copper	mg/L	0.023	Michigan	6	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Copper, total recoverable	mg/L	0.023	Michigan	11	55%	0.00	0.00	0.00	0.03	0.03	0.01	0%
Iron	mg/L	1.000	USEPA	6	0%	0.00	0.10	0.00	0.00	0.10	0.00	0%
Lead	mg/L	0.051	Michigan	6	0%	0.00	0.00	0.00	0.00	0.03	0.00	0%
Lead, total recoverable	mg/L	0.051	Michigan	11	64%	0.00	0.00	0.00	0.01	0.01	0.00	0%
Manganese	mg/L	4.984	Michigan	6	100%	0.18	0.15	0.15	0.04	0.03	0.03	0%
Manganese, total recoverable	mg/L	4.984	Michigan	11	100%	0.20	0.17	0.17	0.04	0.03	0.03	0%
Mercury	mg/L	0.001	Michigan	17	41%	0.00	0.00	0.00	0.00	0.05	0.00	0%
Nickel	mg/L	0.130	Michigan	6	0%	0.00	0.01	0.00	0.00	0.08	0.00	0%
Nickel, total recoverable	mg/L	0.130	Michigan	11	100%	0.00	0.00	0.00	0.01	0.01	0.01	0%
Selenium	mg/L	0.005	Michigan	6	0%	0.00	0.00	0.00	0.00	0.50	0.00	0%
Selenium, total recoverable	mg/L	0.005	Michigan	11	0%	0.00	0.00	0.00	0.00	0.50	0.00	0%
Silver	mg/L	0.000	Michigan	6	0%	0.00	0.00	0.00	0.00	1.67	0.00	0%
Silver, total recoverable	mg/L	0.000	Michigan	11	0%	0.00	0.00	0.00	0.00	1.67	0.00	0%
Thallium	mg/L	0.007	Michigan	6	0%	0.00	0.00	0.00	0.00	0.14	0.00	0%
Thallium, total recoverable	mg/L	0.007	Michigan	11	9%	0.00	0.00	0.00	0.15	0.08	0.01	0%
Vanadium	mg/L	0.027	Michigan	6	0%	0.00	0.00	0.00	0.00	0.07	0.00	0%
Vanadium, total recoverable	mg/L	0.027	Michigan	11	0%	0.00	0.00	0.00	0.00	0.07	0.00	0%
Zinc	mg/L	0.299	Michigan	6	0%	0.00	0.03	0.00	0.00	0.08	0.00	0%
Zinc, total recoverable	mg/L	0.299	Michigan	11	9%	0.00	0.01	0.00	0.01	0.03	0.00	0%
PCBs												
No Aroclors Detected in 10 Samples												
Wet Chemistry and Conventional Pollutants												
Ammonia	mg/L	0.35	Michigan	15	73%	4.20	2.82	2.82	11.89	7.99	**7.98**	**73%**
Cyanide (total)	mg/L	0.0052	Michigan	11	18%	0.01	0.01	0.00	1.37	1.02	0.23	18%
Formaldehyde	mg/L	0.18	Michigan	13	0%	0.00	0.03	0.00	0.00	0.14	0.00	0%
Hardness, carbonate	mg/L	NVA	-	11	100%	300.00	294.55	294.55	-	-	-	-

Notes:

ESV = Ecological Screening Value
NVA = No screening value available
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Table 2

Screening of Water Column Data from Lagoon 5

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	ESV	ESV Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
VOAs												
No detections in 5 or 6 samples												
SVOAs												
No detections in 6 samples												
Metals												
Aluminum	mg/L	0.087	USEPA	6	100%	0.13	0.11	0.11	1.49	1.26	**1.26**	**100%**
Antimony	mg/L	0.240	Michigan	6	0%	0.00	0.00	0.00	0.00	0.00	0.00	0%
Antimony, total recoverable	mg/L	0.240	Michigan	4	100%	0.00	0.00	0.00	0.00	0.00	0.00	0%
Arsenic	mg/L	0.150	Michigan	6	0%	0.00	0.00	0.00	0.00	0.02	0.00	0%
Arsenic, total recoverable	mg/L	0.150	Michigan	4	100%	0.00	0.00	0.00	0.02	0.02	0.02	0%
Barium	mg/L	1.283	Michigan	6	0%	0.00	0.05	0.00	0.00	0.04	0.00	0%
Barium, total recoverable	mg/L	1.283	Michigan	4	100%	0.03	0.03	0.03	0.03	0.03	0.03	0%
Beryllium	mg/L	0.031	Michigan	6	0%	0.00	0.00	0.00	0.00	0.02	0.00	0%
Beryllium, total recoverable	mg/L	0.031	Michigan	4	0%	0.00	0.00	0.00	0.00	0.02	0.00	0%
Cadmium	mg/L	0.005	Michigan	6	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Cadmium, total recoverable	mg/L	0.005	Michigan	4	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Chromium	mg/L	0.197	Michigan	6	0%	0.00	0.01	0.00	0.00	0.03	0.00	0%
Chromium, total recoverable	mg/L	0.197	Michigan	4	0%	0.00	0.00	0.00	0.00	0.01	0.00	0%
Cobalt	mg/L	0.100	Michigan	6	0%	0.00	0.01	0.00	0.00	0.10	0.00	0%
Cobalt, total recoverable	mg/L	0.100	Michigan	4	100%	0.00	0.00	0.00	0.00	0.00	0.00	0%
Copper	mg/L	0.022	Michigan	6	0%	0.00	0.00	0.00	0.00	0.09	0.00	0%
Copper, total recoverable	mg/L	0.022	Michigan	4	100%	0.00	0.00	0.00	0.05	0.05	0.05	0%
Iron	mg/L	1.000	USEPA	6	0%	0.00	0.10	0.00	0.00	0.10	0.00	0%
Lead	mg/L	0.047	Michigan	6	0%	0.00	0.00	0.00	0.00	0.03	0.00	0%
Lead, total recoverable	mg/L	0.047	Michigan	4	0%	0.00	0.00	0.00	0.00	0.03	0.00	0%
Magnesium	mg/L	Nutrient	-	6	100%	18.00	17.17	17.17	-	-	-	-
Manganese, total recoverable	mg/L	4.692	Michigan	4	100%	0.15	0.13	0.13	0.03	0.03	0.03	0%
Mercury	mg/L	0.001	Michigan	10	40%	0.00	0.00	0.00	0.00	0.08	0.00	0%
Nickel	mg/L	0.123	Michigan	6	0%	0.00	0.01	0.00	0.00	0.08	0.00	0%
Nickel, total recoverable	mg/L	0.123	Michigan	4	100%	0.00	0.00	0.00	0.01	0.01	0.01	0%
Selenium	mg/L	0.005	Michigan	6	0%	0.00	0.00	0.00	0.00	0.50	0.00	0%
Selenium, total recoverable	mg/L	0.005	Michigan	4	0%	0.00	0.00	0.00	0.00	0.50	0.00	0%
Silver	mg/L	0.000	Michigan	6	0%	0.00	0.00	0.00	0.00	1.67	0.00	0%
Silver, total recoverable	mg/L	0.000	Michigan	4	0%	0.00	0.00	0.00	0.00	1.67	0.00	0%
Thallium	mg/L	0.007	Michigan	6	0%	0.00	0.00	0.00	0.00	0.14	0.00	0%
Thallium, total recoverable	mg/L	0.007	Michigan	4	75%	0.00	0.00	0.00	0.05	0.05	0.03	0%
Vanadium	mg/L	0.027	Michigan	6	0%	0.00	0.00	0.00	0.00	0.07	0.00	0%
Vanadium, total recoverable	mg/L	0.027	Michigan	4	0%	0.00	0.00	0.00	0.00	0.07	0.00	0%
Zinc	mg/L	0.282	Michigan	6	0%	0.00	0.03	0.00	0.00	0.09	0.00	0%
Zinc, total recoverable	mg/L	0.282	Michigan	4	0%	0.00	0.01	0.00	0.00	0.04	0.00	0%
PCBs												
No Aroclors detected in 10 samples												

Table 2

Screening of Water Column Data from Lagoon 5

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	ESV	ESV Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
Wet Chemistry and Conventional Pollutants												
Ammonia, Unionized	mg/L	0.35	Michigan	10	40%	1.10	0.37	0.36	3.11	1.04	**1.02**	**40%**
Cyanide (total)	mg/L	0.0052	Michigan	4	0%	0.00	0.01	0.00	0.00	0.96	0.00	0%
Formaldehyde	mg/L	0.18	Michigan	10	0%	0.00	0.03	0.00	0.00	0.14	0.00	0%
Hardness, carbonate	mg/L	NVA	-	4	100%	280.00	275.00	275.00	-	-	-	-

Notes:

ESV = Ecological Screening Value
NVA = No screening value available
Ammonia criteria calculated at 25 degrees C and pH of 8.5
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Table 3

Screening of Sediment in Lagoon 5

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	ESV	ESV Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
VOAs												
No parameters exceeded.												
SVOAs												
No parameters detected												
Metals												
Arsenic	mg/kg	33	PEC	8	100%	9.00	5.20	5.20	0.27	0.16	0.16	0%
Cadmium	mg/kg	4.98	PEC	11	100%	3.20	0.99	0.99	0.64	0.20	0.20	0%
Chromium	mg/kg	111	PEC	8	100%	79.00	35.38	35.38	0.71	0.32	0.32	0%
Cobalt	mg/kg	50.00	Region 4	8	100%	8.00	5.23	5.23	0.16	0.10	0.10	0%
Copper	mg/kg	149	PEC	10	100%	88.00	35.57	35.57	0.59	0.24	0.24	0%
Lead	mg/kg	128	PEC	11	100%	490.00	139.98	139.98	3.83	1.09	**1.09**	**36%**
Manganese	mg/kg	1100	Region 4	8	100%	3070.00	1235.00	1235.00	2.79	1.12	1.12	**25%**
Mercury	mg/kg	1.06	PEC	11	9%	0.01	0.03	0.00	0.01	0.03	0.00	0%
Nickel	mg/kg	48.6	PEC	11	100%	29.00	16.15	16.15	0.60	0.33	0.33	0%
Selenium	mg/kg	20.00	Region 4	8	88%	4.80	1.83	1.70	0.24	0.09	0.09	0%
Silver	mg/kg	Not Toxic	AVS	8	38%	1.40	0.47	0.20	-	-	-	-
Thallium	mg/kg	2.60	Dutch	8	75%	0.51	0.29	0.16	0.20	0.11	0.06	0%
Zinc	mg/kg	459	PEC	11	100%	1870.00	575.91	575.91	4.07	1.25	**1.25**	**27%**
Metals (AVS/SEM)												
CNE-SEM	umol/g OC	130.00	EPA 2005	5.00	100%	-56.71	-245.23	-245.23	-0.44	-1.89	-1.89	0.00
PCBs												
Aroclor-1242 (PCB-1242)	mg/kg	0.676	PEC	13	38%	1.50	0.31	0.26	2.22	0.46	0.39	15%
Aroclor-1248 (PCB-1248)	mg/kg	0.676	PEC	13	23%	0.34	0.09	0.05	0.50	0.13	0.07	0%
Aroclor-1254 (PCB-1254)	mg/kg	0.676	PEC	13	23%	0.50	0.13	0.08	0.74	0.19	0.12	0%
Total PCBs	mg/kg	0.676	PEC	13	62%	2.10	0.43	0.40	3.11	0.63	0.59	15%
Wet Chemistry and Conventional Pollutants												
Ammonia	mg/kg	NVA	-	6	100%	370.00	169.88	169.88	-	-	-	-
Cyanide (total)	mg/kg	NVA		6	17%	1.10	0.49	0.18	-	-	-	-
Formaldehyde	mg/kg	NVA	-	6	67%	46.00	19.61	19.03	-	-	-	-

Notes:

ESV = Ecological Screening Value
NVA = No screening value available
CNE-SEM = Carbon normalized excess SEM. See text.
BOLD = SQ > 1.0 or Freq. of Exceedance > 0.2

TABLE 4
SCREENING OF SEDIMENT IN MAIN BODY OF SECONDARY POND

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	*Units*	*ESV*	*ESV Source*	*# Samples*	*Freq. of Detection*	*Max Detection*	*Mean Detection (ND = 1/2 DL)*	*Mean Detection (ND = 0)*	*Max SQ*	*Mean SQ (ND=1/2 DL)*	*Mean SQ (ND = 0)*	*Freq. of Exceedance ND = 0*
VOAs												
Benzene	mg/kg	3.30	EPA 2008 / 10	11	36%	0.46	0.18	0.13	0.14	0.05	0.04	0%
Ethylbenzene	mg/kg	4.85	EPA 2008 / 10	11	27%	0.22	0.11	0.05	0.05	0.02	0.01	0%
Toluene	mg/kg	4.05	EPA 2008 / 10	11	36%	0.55	0.26	0.16	0.14	0.06	0.04	0%
SVOAs												
2,4-Dimethylphenol	mg/kg	0.19	Region 4	11	9%	5.70	1.44	0.52	**30.47**	**7.69**	**2.77**	9%
2-Methylnaphthalene	mg/kg	2.23	EPA 2003 / 10	11	27%	2.50	1.47	0.53	**1.12**	0.66	0.24	9%
2-Methylphenol	mg/kg	0.53	Region 4	11	9%	0.66	1.16	0.06	**1.23**	**2.16**	0.11	9%
3&4-Methylphenol	mg/kg	0.46	Region 4	11	18%	5.60	1.46	0.57	**12.26**	**3.21**	**1.24**	18%
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	2.65	Region 4	11	18%	0.63	1.18	0.10	0.24	0.45	0.04	0%
Fluoranthene	mg/kg	3.53	EPA 2003 / 10	11	9%	1.10	1.20	0.10	0.31	0.34	0.03	0%
Fluorene	mg/kg	2.69	EPA 2003 / 10	11	9%	0.56	1.15	0.05	0.21	0.43	0.02	0%
Naphthalene	mg/kg	1.93	EPA 2003 / 10	11	9%	1.00	1.19	0.09	0.52	0.62	0.05	0%
Phenanthrene	mg/kg	3.00	EPA 2003 / 10	11	9%	1.30	1.21	0.12	0.43	0.40	0.04	0%
Phenol	mg/kg	0.12	Region 4	11	36%	14.00	3.16	2.63	**116.67**	**26.37**	**21.89**	**36%**
Pyrene	mg/kg	3.49	EPA 2003 / 10	11	9%	0.97	1.18	0.09	0.28	0.34	0.03	0%
Metals												
Aluminum	mg/kg	Not Toxic	-	49	100%	32000.00	14695.92	14695.92	-	-	-	-
Antimony	mg/kg	25.00	Region 4	60	88%	43.00	4.89	4.31	**1.72**	0.20	0.17	2%
Arsenic	mg/kg	33.00	PEC	67	94%	47.00	12.39	12.19	**1.42**	0.38	0.37	3%
Barium	mg/kg	60.00	Region 4	62	100%	280.00	116.31	116.31	**4.67**	**1.94**	**1.94**	**79%**
Beryllium	mg/kg	1.20	Dutch	62	92%	2.70	1.21	1.20	**2.25**	1.01	1.00	**48%**
Cadmium	mg/kg	4.98	PEC	72	99%	28.00	6.05	6.05	**5.62**	**1.22**	**1.21**	**51%**
Chromium	mg/kg	Not Toxic	AVS Present	67	100%	190.00	94.94	94.94	-	-	-	-
Cobalt	mg/kg	50.00	Region 4	62	100%	12.00	6.47	6.47	0.24	0.13	0.13	0%
Copper	mg/kg	149.00	PEC	70	94%	382.00	98.19	98.13	**2.56**	0.66	0.66	**24%**
Iron	mg/kg	Not Toxic	-	49	100%	90000.00	46297.96	46297.96	-	-	-	-
Lead	mg/kg	128.00	PEC	77	100%	1800.00	639.09	639.09	**14.06**	**4.99**	**4.99**	**75%**
Manganese	mg/kg	1100.00	Region 4	66	100%	15800.00	4203.64	4203.64	**14.36**	**3.82**	**3.82**	**77%**
Mercury	mg/kg	1.10	PEC	72	28%	0.33	0.07	0.04	0.30	0.06	0.03	0%
Nickel	mg/kg	48.30	PEC	73	99%	60.00	31.50	31.46	**1.24**	0.65	0.65	14%
Selenium	mg/kg	20.00	Region 4	62	97%	20.00	5.79	5.47	1.00	0.29	0.27	0%
Silver	mg/kg	Not Toxic	AVS Present	67	81%	6.00	1.96	1.71	-	-	-	-
Thallium	mg/kg	2.60	Dutch	62	90%	14.00	1.81	1.34	**5.38**	0.70	0.51	15%

TABLE 4
SCREENING OF SEDIMENT IN MAIN BODY OF SECONDARY POND

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	***Units***	***ESV***	***ESV Source***	***# Samples***	***Freq. of Detection***	***Max Detection***	***Mean Detection (ND = 1/2 DL)***	***Mean Detection (ND = 0)***	***Max SQ***	***Mean SQ (ND=1/2 DL)***	***Mean SQ (ND = 0)***	***Freq. of Exceedance ND = 0***
Tin	mg/kg	22000.00	Dutch	6	100%	170.00	110.17	110.17	0.01	0.01	0.01	0%
Vanadium	mg/kg	56.00	Dutch	62	100%	94.00	22.90	22.90	**1.68**	0.41	0.41	2%
Zinc	mg/kg	459.00	PEC	72	100%	41000.00	11737.78	11737.78	**89.32**	**25.57**	**25.57**	**79%**
Metals (AVS/SEM)												
CNE-SEM	umol/g OC	130.00	EPA 2005	16	100%	7570.93	1878.59	1878.59	**58.24**	**14.45**	**14.45**	**81%**
CNE-SEM	umol/g OC	3000.00	EPA 2005	16	100%	7570.93	1878.59	1878.59	**2.52**	0.63	**14.45**	**25%**
PCBs												
Aroclor-1242 (PCB-1242)	mg/kg	0.67	PEC	117	60%	110.00	3.05	2.94	**164.18**	**4.56**	**4.39**	**22%**
Aroclor-1248 (PCB-1248)	mg/kg	0.67	PEC	117	23%	38.00	1.01	0.66	**56.72**	**1.51**	0.99	14%
Aroclor-1254 (PCB-1254)	mg/kg	0.67	PEC	117	25%	6.00	0.49	0.14	**8.96**	0.73	0.21	5%
Aroclor-1260 (PCB-1260)	mg/kg	0.67	PEC	116	2%	0.10	0.44	0.00	0.15	0.65	0.00	0%
Total PCB Aroclors	mg/kg	0.67	PEC	117	83%	110.00	3.79	3.75	**164.18**	**5.65**	**5.60**	**37%**
After PCB cleanup	mg/kg	0.67	PEC	111	82%	13.00	1.12	1.08	**19.40**	**1.67**	**1.61**	**33%**
Wet Chemistry and Conventional Pollutants												
Ammonia	mg/kg	NVA	-	56	91%	1000.00	294.78	290.77	-	-	-	-
Cyanide (total)	mg/kg	NVA	-	54	54%	55.00	7.20	6.90	-	-	-	-
Formaldehyde	mg/kg	NVA	-	51	92%	170.00	57.88	57.76	-	-	-	-
Nitrate (as N)	mg/kg	NVA	-	13	0%	0.00	2.50	0.00	-	-	-	-
Nitrite (as N)	mg/kg	NVA	-	13	15%	0.19	2.15	0.03	-	-	-	-
Orthophosphate	mg/kg	NVA	-	13	92%	6.40	3.38	3.19	-	-	-	-
pH, lab	s.u.	NVA	-	13	100%	9.87	8.86	8.86	-	-	-	-
Sulfide	mg/kg	NVA	-	10	90%	18000.00	3095.90	3095.00	-	-	-	-
Total organic carbon (TOC)	%	NVA	-	36	100%	16.30	5.34	5.34	-	-	-	-
Cation exchange capacity	meq/100g	NVA	-	4	100%	225.00	178.00	178.00	-	-	-	-

Notes:
ESV = Ecological Screening Value
NVA = No screening value available
CNE-SEM = Carbon normalized excess SEM. See text.
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

TABLE 5
SCREENING OF SECONDARY POND SEDIMENT AS FUTURE SEDIMENT OR SOIL FOR PHYTOTOXICITY

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	*Units*	*Eco-Plant Screening Value*	*Source*	*# Samples*	*Freq. of Detection*	*Max Detection*	*Mean Detection (ND = 1/2 DL)*	*Mean Detection (ND = 0)*	*Max SQ*	*Mean SQ (ND=1/2 DL)*	*Mean SQ (ND = 0)*	*Freq. of Exceedance*
Metals												
Antimony	mg/kg	11.00	Region 4	60	88%	43.00	4.89	4.31	**3.91**	0.44	0.39	**21%**
Cadmium	mg/kg	32.00	EcoSSL	72	99%	28.00	6.05	6.05	0.88	0.19	0.19	0%
Chromium	mg/kg	100.00	Dutch	67	100%	190.00	94.94	94.94	**1.90**	0.95	0.95	**45%**
Copper	mg/kg	70.00	EcoSSL	70	94%	382.00	98.19	98.13	**5.46**	**1.40**	**1.40**	**62%**
Lead	mg/kg	120.00	EcoSSL	77	100%	1800.00	639.09	639.09	**15.00**	**5.33**	**5.33**	**86%**
Manganese	mg/kg	220.00	EcoSSL	66	100%	15800.00	4203.64	4203.64	**71.82**	**19.11**	**19.11**	**100%**
Mercury	mg/kg	0.30	Region 4	72	28%	0.33	0.07	0.04	**1.10**	0.22	0.12	0%
Nickel	mg/kg	38.00	EcoSSL	73	99%	60.00	31.50	31.46	**1.58**	0.83	0.83	**27%**
Selenium	mg/kg	0.52	EcoSSL	62	97%	20.00	5.79	5.47	**38.46**	**11.14**	**10.52**	**95%**
Thallium	mg/kg	1.00	Region 4	62	90%	14.00	1.81	1.34	**14.00**	**1.81**	**1.34**	**47%**
Tin	mg/kg	50.00	Region 4	6	100%	170.00	110.17	110.17	**3.40**	**2.20**	**2.20**	**67%**
Vanadium	mg/kg	60.00	Region 4	62	100%	94.00	22.90	22.90	**1.57**	0.38	0.38	5%
Zinc	mg/kg	160.00	EcoSSL	72	100%	41000.00	11737.78	11737.78	**256.25**	**73.36**	**73.36**	**95%**

Notes:
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Table 6

Screening of Secondary Pond Sediment as Future Soil

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	Eco-Screening Soil	Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
VOAs												
Benzene	mg/kg	0.12	Region 4	11	36%	0.46	0.18	0.13	**3.83**	**1.50**	**1.06**	**36%**
Ethylbenzene	mg/kg	0.27	Region V	11	27%	0.22	0.11	0.05	0.81	0.40	0.18	0%
Toluene	mg/kg	0.15	Region 4	11	36%	0.55	0.26	0.16	**3.67**	**1.75**	**1.04**	**36%**
SVOAs												
2,4-Dimethylphenol	mg/kg	0.04	Region 4	11	9%	5.70	1.44	0.52	**142.50**	**35.98**	**12.95**	9%
2-Methylnaphthalene	mg/kg	21.00	EcoSSL	11	27%	2.50	1.47	0.53	0.12	0.07	0.03	0%
2-Methylphenol	mg/kg	0.10	Region 4	11	9%	0.66	1.16	0.06	**6.60**	**11.56**	0.60	9%
3&4-Methylphenol	mg/kg	0.09	Region 4	11	18%	5.60	1.46	0.57	**65.88**	**17.23**	**6.68**	18%
bis(2-Ethylhexyl)phthalate	mg/kg	0.02	Region 4	11	18%	0.63	1.18	0.10	**31.50**	**59.16**	**5.09**	18%
Fluoranthene	mg/kg	21.00	EcoSSL	11	9%	1.10	1.20	0.10	0.05	0.06	0.00	0%
Fluorene	mg/kg	21.00	EcoSSL	11	9%	0.56	1.15	0.05	0.03	0.05	0.00	0%
Naphthalene	mg/kg	21.00	EcoSSL	11	9%	1.00	1.19	0.09	0.05	0.06	0.00	0%
Phenanthrene	mg/kg	21.00	EcoSSL	11	9%	1.30	1.21	0.12	0.06	0.06	0.01	0%
Phenol	mg/kg	0.79	Region 4	11	36%	14.00	3.16	2.63	**17.72**	**4.01**	**3.33**	**36%**
Pyrene	mg/kg	1.10	EcoSSL	11	9%	0.97	1.18	0.09	0.88	**1.08**	0.08	0%
Metals												
Aluminum	mg/kg	Not Toxic	-	49	100%	32000.00	14695.92	14695.92	-	-	-	-
Antimony	mg/kg	0.27	EcoSSL	60	88%	43.00	4.89	4.31	**159.3**	**18.1**	**16.0**	**83%**
Arsenic	mg/kg	18.00	EcoSSL	67	94%	47.00	12.39	12.19	**2.6**	0.7	0.7	**22%**
Barium	mg/kg	330.00	EcoSSL	62	100%	280.00	116.31	116.31	0.8	0.4	0.4	0%
Beryllium	mg/kg	21.00	EcoSSL	62	92%	2.70	1.21	1.20	0.1	0.1	0.1	0%
Cadmium	mg/kg	0.36	EcoSSL	72	99%	28.00	6.05	6.05	**77.8**	**16.8**	**16.8**	**88%**
Chromium	mg/kg	26.00	EcoSSL	67	100%	190.00	94.94	94.94	**7.3**	**3.7**	**3.7**	**82%**
Cobalt	mg/kg	13.00	EcoSSL	62	100%	12.00	6.47	6.47	0.9	0.5	0.5	0%
Copper	mg/kg	28.00	EcoSSL	70	94%	382.00	98.19	98.13	**13.6**	**3.5**	**3.5**	**71%**
Iron	mg/kg	Not Toxic	-	49	100%	90000.00	46297.96	46297.96	-	-	-	-
Lead	mg/kg	11.00	EcoSSL	77	100%	1800.00	639.09	639.09	**163.6**	**58.1**	**58.1**	**95%**
Manganese	mg/kg	230.00	EcoSSL	66	100%	15800.00	4203.64	4203.64	**68.7**	**18.3**	**18.3**	**98%**
Mercury	mg/kg	0.10	Region 4	72	28%	0.33	0.07	0.04	**3.3**	0.7	0.4	17%
Nickel	mg/kg	38.00	EcoSSL	73	99%	60.00	31.50	31.46	**1.6**	0.8	0.8	**34%**
Selenium	mg/kg	0.52	EcoSSL	62	97%	20.00	5.79	5.47	**38.5**	**11.1**	**10.5**	**95%**
Silver	mg/kg	4.20	Region 4	67	81%	6.00	1.96	1.71	**1.4**	0.5	0.4	6%
Thallium	mg/kg	0.22	Region 4	62	90%	14.00	1.81	1.34	**63.6**	**8.2**	**6.1**	**74%**
Tin	mg/kg	50.00	Region 4	6	100%	170.00	110.17	110.17	**3.4**	**2.2**	**2.2**	**67%**
Vanadium	mg/kg	7.80	EcoSSL	62	100%	94.00	22.90	22.90	**12.1**	**2.9**	**2.9**	**100%**
Zinc	mg/kg	46.00	EcoSSL	72	100%	41000.00	11737.78	11737.78	**891.3**	**255.2**	**255.2**	**97%**

Table 6

Screening of Secondary Pond Sediment as Future Soil

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	Eco-Screening Soil	Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
PCBs												
Aroclor-1242 (PCB-1242)	mg/kg	0.37	ORNL	117	60%	110.00	3.05	2.94	**296.50**	**8.23**	**7.92**	**50%**
Aroclor-1248 (PCB-1248)	mg/kg	0.37	ORNL	117	23%	38.00	1.01	0.66	**102.43**	**2.73**	**1.79**	**14%**
Aroclor-1254 (PCB-1254)	mg/kg	0.37	ORNL	117	25%	6.00	0.49	0.14	**16.17**	**1.32**	0.38	**45%**
Aroclor-1260 (PCB-1260)	mg/kg	0.37	ORNL	116	2%	0.10	0.44	0.00	0.27	**1.17**	0.00	**18%**
Aroclor-1262 (PCB-1262)	mg/kg	0.37	ORNL	13	0%	0.00	0.61	0.00	0.00	**1.65**	0.00	**31%**
Total PCBs	mg/kg	0.37	ORNL	117	83%	110.00	3.79	3.75	**296.50**	**10.20**	**10.11**	**59%**
Total PCBs after clean-up	mg/kg	0.37	ORNL	111	82%	13.00	1.12	1.08	**35.04**	**3.01**	**2.91**	**57%**
Wet Chemistry and Conventional Pollutants												
Ammonia	mg/kg	NVA	-	56	91%	1000.00	294.78	290.77	**-**	**-**	-	-
Cyanide (total)	mg/kg	0.10	Region 4	55	55%	55.00	7.40	7.10	**550.00**	**73.98**	**70.98**	**25%**
Formaldehyde	mg/kg	NVA	-	51	92%	170.00	57.88	57.76	-	-	-	-
Nitrate (as N)	mg/kg	NVA	-	13	0%	0.00	2.50	0.00	-	-	-	-
Nitrite (as N)	mg/kg	NVA	-	13	15%	0.19	2.15	0.03	-	-	-	-
Orthophosphate	mg/kg	NVA	-	13	92%	6.40	3.38	3.19	-	-	-	-
pH, lab	s.u.	NVA	-	13	100%	9.87	8.86	8.86	-	-	-	-
Sulfide	mg/kg	NVA	-	10	90%	18000.00	3095.90	3095.00	-	-	-	-
Sulfide (acid volatile)	mg/kg	NVA	-	6	100%	28500.00	17630.00	17630.00	-	-	-	-
Total organic carbon (TOC)	%	NVA	-	6	100%	16.30	11.02	11.02	-	-	-	-
Total organic carbon (TOC)	mg/kg	NVA	-	30	100%	140000.00	42083.33	42083.33	-	-	-	-

Notes:
NVA = No screening value available
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Table 7

Screening of Secondary Pond Sediment as Future Soil

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	Eco-Screening Soil	Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
VOAs												
Benzene	mg/kg	24.00	Region 4	11	36%	0.46	0.18	0.13	0.02	0.01	0.01	0%
Ethylbenzene	mg/kg	NVA	Region V	11	27%	0.22	0.11	0.05				
Toluene	mg/kg	23.00	Region 4	11	36%	0.55	0.26	0.16	0.02	0.01	0.01	0%
SVOAs												
2,4-Dimethylphenol	mg/kg	NVA	Region 4	11	9%	5.70	1.44	0.52				
2-Methylnaphthalene	mg/kg	100.00	EcoSSL	11	27%	2.50	1.47	0.53	0.03	0.01	0.01	0%
2-Methylphenol	mg/kg	590.00	Region 4	11	9%	0.66	1.16	0.06	0.00	0.00	0.00	0%
3&4-Methylphenol	mg/kg	590.00	Region 4	11	18%	5.60	1.46	0.57	0.01	0.00	0.00	0%
bis(2-Ethylhexyl)phthalate	mg/kg	0.02	Region 4	11	18%	0.63	1.18	0.10	**31.50**	**59.16**	**5.09**	18%
Fluoranthene	mg/kg	100.00	EcoSSL	11	9%	1.10	1.20	0.10	0.01	0.01	0.00	0%
Fluorene	mg/kg	100.00	EcoSSL	11	9%	0.56	1.15	0.05	0.01	0.01	0.00	0%
Naphthalene	mg/kg	100.00	EcoSSL	11	9%	1.00	1.19	0.09	0.01	0.01	0.00	0%
Phenanthrene	mg/kg	100.00	EcoSSL	11	9%	1.30	1.21	0.12	0.01	0.01	0.00	0%
Phenol	mg/kg	0.79	Region 4	11	36%	14.00	3.16	2.63	**17.72**	**4.01**	**3.33**	**36%**
Pyrene	mg/kg	1.10	EcoSSL	11	9%	0.97	1.18	0.09	0.88	**1.08**	0.08	0%
Metals												
Aluminum	mg/kg	Not Toxic	-	49	100%	32000.00	14695.92	14695.92	-	-	-	-
Antimony	mg/kg	0.27	EcoSSL	60	88%	43.00	4.89	4.31	**159.3**	**18.1**	**16.0**	**83%**
Arsenic	mg/kg	43.00	EcoSSL	67	94%	47.00	12.39	12.19	**1.1**	0.3	0.3	1%
Barium	mg/kg	1000.00	Region 4	62	100%	280.00	116.31	116.31	0.3	0.1	0.1	0%
Beryllium	mg/kg	21.00	EcoSSL	62	92%	2.70	1.21	1.20	0.1	0.1	0.1	0%
Cadmium	mg/kg	0.36	EcoSSL	72	99%	28.00	6.05	6.05	**77.8**	**16.8**	**16.8**	**88%**
Chromium	mg/kg	26.00	EcoSSL	67	100%	190.00	94.94	94.94	**7.3**	**3.7**	**3.7**	**82%**
Cobalt	mg/kg	120.00	EcoSSL	62	100%	12.00	6.47	6.47	0.1	0.1	0.1	0%
Copper	mg/kg	28.00	EcoSSL	70	94%	382.00	98.19	98.13	**13.6**	**3.5**	**3.5**	**71%**
Iron	mg/kg	Not Toxic	-	49	100%	90000.00	46297.96	46297.96	-	-	-	N/A
Lead	mg/kg	11.00	EcoSSL	77	100%	1800.00	639.09	639.09	**163.6**	**58.1**	**58.1**	**95%**
Manganese	mg/kg	4000.00	EcoSSL	66	100%	15800.00	4203.64	4203.64	**4.0**	**1.1**	**1.1**	**52%**
Mercury	mg/kg	0.10	Region 4	72	28%	0.33	0.07	0.04	**3.3**	0.7	0.4	17%
Nickel	mg/kg	130.00	EcoSSL	73	99%	60.00	31.50	31.46	0.5	0.2	0.2	0%
Selenium	mg/kg	0.63	EcoSSL	62	97%	20.00	5.79	5.47	**31.7**	**9.2**	**8.7**	**94%**
Silver	mg/kg	4.20	Region 4	67	81%	6.00	1.96	1.71	**1.4**	0.5	0.4	6%
Thallium	mg/kg	0.22	Region 4	62	90%	14.00	1.81	1.34	**63.6**	**8.2**	**6.1**	**74%**
Tin	mg/kg	NVA		6	100%	170.00	110.17	110.17				
Vanadium	mg/kg	7.80	EcoSSL	62	100%	94.00	22.90	22.90	**12.1**	**2.9**	**2.9**	**100%**
Zinc	mg/kg	46.00	EcoSSL	72	100%	41000.00	11737.78	11737.78	**891.3**	**255.2**	**255.2**	**97%**

Table 7

Screening of Secondary Pond Sediment as Future Soil

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	Eco-Screening Soil	Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
PCBs												
Aroclor-1242 (PCB-1242)	mg/kg	0.37	ORNL	117	60%	110.00	3.05	2.94	**296.50**	**8.23**	**7.92**	**31%**
Aroclor-1248 (PCB-1248)	mg/kg	0.37	ORNL	117	23%	38.00	1.01	0.66	**102.43**	**2.73**	**1.79**	**15%**
Aroclor-1254 (PCB-1254)	mg/kg	0.37	ORNL	117	25%	6.00	0.49	0.14	**16.17**	**1.32**	0.38	9%
Aroclor-1260 (PCB-1260)	mg/kg	0.37	ORNL	116	2%	0.10	0.44	0.00	0.27	**1.17**	0.00	0%
Total PCBs	mg/kg	0.37	ORNL	117	83%	110.00	3.79	3.75	**296.50**	**10.20**	**10.11**	**53%**
Total PCBs after cleanup	mg/kg	0.37	ORNL	111	82%	13.00	1.12	1.08	**35.04**	**3.01**	**2.91**	**50%**
Wet Chemistry and Conventional Pollutants												
Ammonia	mg/kg	NVA	-	56	91%	1000.00	294.78	290.77	**-**	**-**	-	-
Cyanide (total)	mg/kg	0.10	Region 4	55	55%	55.00	7.40	7.10	**550.00**	**73.98**	**70.98**	**25%**
Formaldehyde	mg/kg	NVA	-	51	92%	170.00	57.88	57.76	-	-	-	-
Nitrate (as N)	mg/kg	NVA	-	13	0%	0.00	2.50	0.00	-	-	-	-
Nitrite (as N)	mg/kg	NVA	-	13	15%	0.19	2.15	0.03	-	-	-	-
Orthophosphate	mg/kg	NVA	-	13	92%	6.40	3.38	3.19	-	-	-	-
pH, lab	s.u.	NVA	-	13	100%	9.87	8.86	8.86	-	-	-	-
Sulfide	mg/kg	NVA	-	10	90%	18000.00	3095.90	3095.00	-	-	-	-
Sulfide (acid volatile)	mg/kg	NVA	-	6	100%	28500.00	17630.00	17630.00	-	-	-	-
Total organic carbon (TOC)	%	NVA	-	6	100%	16.30	11.02	11.02	-	-	-	-
Total organic carbon (TOC)	mg/kg	NVA	-	30	100%	140000.00	42083.33	42083.33	-	-	-	-

Notes:
NVA = No screening value available
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Table 8

Comparison of Future Use Scenarios

Ecological Screening Assessments for Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance (ND = 0)
Future Pond Scenario -- Risks to Benthos from Chemicals in Sediments				
Manganese	14.4	3.8	3.8	77%
Barium	4.7	1.9	1.9	79%
Carbon-Normalized Exc. SEM				46%
Future Wetland Scenario -- Risks to Plants from Chemicals in Sediments				
Zinc	256.3	73.4	73.4	95%
Manganese	71.8	19.1	19.1	100%
Selenium	38.5	11.1	10.5	95%
Lead	15.0	5.3	5.3	86%
Thallium	14.0	1.8	1.3	47%
Copper	5.5	1.4	1.4	62%
ıre Terrestrial Scenario -- Risks to Plants, Soil Invertebrates, and Worm-eating Wildlife from Chemicals in S				
Zinc	891.3	255.2	255.2	97%
Lead	163.6	58.1	58.1	95%
Manganese	68.7	18.3	18.3	98%
Antimony	159.3	18.1	16.0	83%
Cadmium	77.8	16.8	16.8	88%
Selenium	38.5	11.1	10.5	95%
Thallium	63.6	8.2	6.1	74%
Chromium	7.3	3.7	3.7	82%
Total PCBs after cleanup	35.0	3.0	2.9	50%
Vanadium	12.1	2.9	2.9	100%
Tin	3.4	2.2	2.2	67%
Future Terrestrial Scenario -- Risks to Worm-eating Wildlife from Chemicals in Soils				
Zinc	891.3	255.2	255.2	97%
Lead	163.6	58.1	58.1	95%
Antimony	159.3	18.1	16.0	83%
Cadmium	77.8	16.8	16.8	88%
Selenium	31.7	9.2	8.7	94%
Thallium	63.6	8.2	6.1	74%
Chromium	7.3	3.7	3.7	82%
Copper	13.6	3.5	3.5	71%
Total PCBs after cleanup	35.0	3.0	2.9	50%
Vanadium	12.1	2.9	2.9	100%
Manganese	4.0	1.1	1.1	52%

Table 9

Screening of Secondary Pond Sediment as Future Soil to Michigan Non-Residential Direct Contact Criteria

Ecological Screening Assessments For Future Use Scenarios
Nodular Industrial Land
Saginaw, Michigan

Parameters	Units	Non-res. Direct Contact	Source	# Samples	Freq. of Detection	Max Detection	Mean Detection (ND = 1/2 DL)	Mean Detection (ND = 0)	Max SQ	Mean SQ (ND=1/2 DL)	Mean SQ (ND = 0)	Freq. of Exceedance
Metals												
Aluminum	mg/kg	NVA		49	100%	32000.00	14695.92	14695.92	-	-	-	-
Antimony	mg/kg	670	Michigan	60	88%	43.00	4.89	4.31	0.1	0.0	0.0	0.0%
Arsenic	mg/kg	37	Michigan	67	94%	47.00	12.39	12.19	**1.3**	0.3	0.3	1.5%
Barium	mg/kg	130,000	Michigan	62	100%	280.00	116.31	116.31	0.0	0.0	0.0	0.0%
Beryllium	mg/kg	1,600	Michigan	62	92%	2.70	1.21	1.20	0.0	0.0	0.0	0.0%
Cadmium	mg/kg	2,100	Michigan	72	99%	28.00	6.05	6.05	0.0	0.0	0.0	0.0%
Chromium	mg/kg	1,000,000	Michigan	67	100%	190.00	94.94	94.94	0.0	0.0	0.0	0.0%
Cobalt	mg/kg	9,000	Michigan	62	100%	12.00	6.47	6.47	0.0	0.0	0.0	0.0%
Copper	mg/kg	73,000	Michigan	70	94%	382.00	98.19	98.13	0.0	0.0	0.0	0.0%
Iron	mg/kg	580,000	Michigan	49	100%	90000.00	46297.96	46297.96	0.2	0.1	0.1	0.0%
Lead	mg/kg	900	Michigan	77	100%	1800.00	639.09	639.09	**2.0**	0.7	0.7	**24.7%**
Manganese	mg/kg	90,000	Michigan	66	100%	15800.00	4203.64	4203.64	0.2	0.0	0.0	0.0%
Mercury	mg/kg	580	Michigan	72	28%	0.33	0.07	0.04	0.0	0.0	0.0	0.0%
Nickel	mg/kg	150,000	Michigan	73	99%	60.00	31.50	31.46	0.0	0.0	0.0	0.0%
Selenium	mg/kg	9,600	Michigan	62	97%	20.00	5.79	5.47	0.0	0.0	0.0	0.0%
Silver	mg/kg	9,000	Michigan	67	81%	6.00	1.96	1.71	0.0	0.0	0.0	0.0%
Thallium	mg/kg	130	Michigan	62	90%	14.00	1.81	1.34	0.1	0.0	0.0	0.0%
Tin	mg/kg	NVA		6	100%	170.00	110.17	110.17				
Vanadium	mg/kg	5,500	Michigan	62	100%	94.00	22.90	22.90	0.0	0.0	0.0	0.0%
Zinc	mg/kg	630,000	Michigan	72	100%	41000.00	11737.78	11737.78	0.1	0.0	0.0	0.0%
PCBs												
Total PCBs	mg/kg	16	Michigan	117	83%	110.00	3.79	3.75	**6.88**	0.24	0.23	5.1%
Total PCBs after cleanup	mg/kg	16	Michigan	111	82%	13.00	1.12	1.08	0.81	0.07	0.07	0.0%

Notes:
NVA = No screening value available
BOLD = SQ > 1.0 or Freq. of Exceedance > 20%

Attachment A

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		H1	H1	H2	H3	H3	H4	H8-05	H9-05	H10-05	H11-05	SD-205-11	SD-206-11	SD-217-11	SD-218-11	SD-219-11	SD-220-11
Sample ID:		S00003	S00004	S00005	S00001	S00002	S00006	B70536	B70537	B70538	B70539	S-58502-062711-SH-205	S-58502-062711-SH-206	S-58502-062811-SH-217	S-58502-062811-SH-218	S-58502-062811-SH-219	S-58502-062811-SH-220
Sample Date:		11/17/1998	11/17/1998	11/17/1998	11/16/1998	11/16/1998	11/17/1998	3/29/2005	3/29/2005	3/29/2005	3/29/2005	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011	6/28/2011
Sample Depth:		-	-	-	-	-	-	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
			(Duplicate)			(Duplicate)											
Parameters	**Units**																
VOAs																	
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOAs																	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		H1	H1	H2	H3	H3	H4	H8-05	H9-05	H10-05	H11-05	SD-205-11	SD-206-11	SD-217-11	SD-218-11	SD-219-11	SD-220-11
Sample ID:		S00003	S00004	S00005	S00001	S00002	S00006	B70536	B70537	B70538	B70539	S-58502-062711-SH-205	S-58502-062711-SH-206	S-58502-062811-SH-217	S-58502-062811-SH-218	S-58502-062811-SH-219	S-58502-062811-SH-220
Sample Date:		11/17/1998	11/17/1998	11/17/1998	11/16/1998	11/16/1998	11/17/1998	3/29/2005	3/29/2005	3/29/2005	3/29/2005	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011	6/28/2011
Sample Depth:		-	-	-	-	-	-	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	-	-	-	-	-	-
matrix_code		SE	SE (Duplicate)	SE	SE	SE (Duplicate)	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Parameters	**Units**																
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																	
Aluminum	mg/kg	11900	12500	19800	14900	13800	17700	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	10 U	12	23	10 U	10 U	43	-	-	-	-	0.096 J	0.55	3.2	5.8	1.7	38 U
Arsenic	mg/kg	22	23	31	9	9	47	-	-	-	-	2.7	3.8	12	15	9.6	19 U
Barium	mg/kg	171	171	259	102	97	207	-	-	-	-	45	52	150	220	140	140
Beryllium	mg/kg	1	2	2	1	1 U	2	-	-	-	-	0.17 U	0.22 U	1.1	1.3	0.79	0.62
Cadmium	mg/kg	22	22	28	2	2	28	-	-	-	-	0.12	0.50	6.9	9.3	3.0	4.4
Calcium	mg/kg	40100 J	45300 J	108000 J	97600 J	81400 J	86900 J	-	-	-	-	-	-	-	-	-	-
Cation exchange capacity	meq/100g	202	162	225	-	-	123	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	97	113	105	58	57	111	-	-	-	-	14	23	130	170	110	92
Cobalt	mg/kg	7	7	8	8	7	12	-	-	-	-	4.8	5.1	6.9	8.4	6.3	9.4
Copper	mg/kg	249	274	323	88	87	382	-	-	-	-	12	34	110	160	77	90
Iron	mg/kg	34500	40100	34500	32100	31400	29100	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	1580	1690	1800	289	290	1800	699	765	104	785	9.8	57	1000	1200	340	550
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	5330 J	5470 J	15800 J	3070 J	2810 J	6960 J	11100	4030	1900	5800	500	1000	5400	9900	3700	3400
Mercury	mg/kg	0.2	0.2 U	0.2	0.2 U	0.2 U	0.3	-	-	-	-	0.013 J	0.060 U	0.072 J	0.083 J	0.035 J	0.057 J
Nickel	mg/kg	38	42	43	29	29	53	-	-	-	-	13	17	31	38	28	35
Potassium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	7 J	7 J	9 J	2 UJ	2 J	17 J	-	-	-	-	0.22	0.58	3.3	5.1	2.3	38 U
Silver	mg/kg	5	5	6	2 U	2 U	6	-	-	-	-	0.033 J	0.16	1.9	2.8	0.78	19 U
Sodium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	3	3	5	1 U	1 U	14	-	-	-	-	0.15	0.24	0.83 J	0.93 J	0.38 J	19 U
Tin	mg/kg	129	141	170	39	30	152	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	32 J	36 J	45 J	29 J	27 J	94 J	-	-	-	-	17	18	19	33	20	31

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		H1	H1	H2	H3	H3	H4	H8-05	H9-05	H10-05	H11-05	SD-205-11	SD-206-11	SD-217-11	SD-218-11	SD-219-11	SD-220-11
Sample ID:		S00003	S00004	S00005	S00001	S00002	S00006	B70536	B70537	B70538	B70539	S-58502-062711-SH-205	S-58502-062711-SH-206	S-58502-062811-SH-217	S-58502-062811-SH-218	S-58502-062811-SH-219	S-58502-062811-SH-220
Sample Date:		11/17/1998	11/17/1998	11/17/1998	11/16/1998	11/16/1998	11/17/1998	3/29/2005	3/29/2005	3/29/2005	3/29/2005	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011	6/28/2011
Sample Depth:		-	-	-	-	-	-	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	(0-1) ft BGS	-	-	-	-	-	-
matrix_code		SE	SE (Duplicate)	SE	SE	SE (Duplicate)	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Parameters	**Units**																
Zinc	mg/kg	17900 J	21800 J	21800 J	1850 J	1870 J	25700 J	-	-	-	-	15	340	6900	5900	2100	13000
MetalsSEM																	
Cadmium	mg/kg	25.5 J	25 J	37 J	1.8	2	36 J	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	228 J	213 J	310 J	47.4	65.9	374 J	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	1950 J	1830 J	2490 J	309	300	2430 J	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.2 UJ	0.1 UJ	0.2 UJ	0.03 U	0.03 U	0.9 UJ	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	34.5 J	33 J	45 J	14.8	17.6	51 J	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-	-	0.53	0.52	5.3	3.6	2.6	8.8
Zinc	mg/kg	22700 J	24400 J	34400 J	1900	1880	35600 J	-	-	-	-	-	-	-	-	-	-
PCBs																	
Aroclor-1016 (PCB-1016)	mg/kg	0.3 U	0.3 U	0.3 U	0.1 U	0.2 U	0.2 U	0.50 U	0.10 U	0.10 U	0.10 U	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1221 (PCB-1221)	mg/kg	0.3 U	0.3 U	0.3 U	0.1 U	0.2 U	0.2 U	1.0 U	0.20 U	0.20 U	0.20 U	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1232 (PCB-1232)	mg/kg	0.3 U	0.3 U	0.3 U	0.1 U	0.2 U	0.2 U	0.50 U	0.10 U	0.10 U	0.10 U	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1242 (PCB-1242)	mg/kg	1.6	1.2	4.8	1.5	1.3	1.8	0.54	0.58	0.15 J	1.3	0.35 U	0.39 U	0.55 U	0.28 J	0.33 J	0.69 U
Aroclor-1248 (PCB-1248)	mg/kg	0.3 U	0.3 U	0.3 U	0.1 U	0.2 U	0.2 U	0.50 U	0.10 U	0.10 U	0.10 U	0.35 U	0.048 J	0.057 J	0.61 U	0.57 U	0.17 J
Aroclor-1254 (PCB-1254)	mg/kg	0.6	0.4	2.2	0.5	0.4	0.7	0.50 U	0.10 U	0.10 U	0.10 U	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1260 (PCB-1260)	mg/kg	0.3 U	0.3 U	0.3 U	0.1	0.2 U	0.2 U	0.50 U	0.10 U	0.10 U	0.10 U	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.35 U	0.39 U	0.55 U	0.61 U	0.57 U	0.69 U
Total PCBs	mg/kg	2.2	1.6	7	2.1	1.7	2.5	0.54	0.58	0.15 J	1.3	-	-	-	-	-	-
Wet																	
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-	9.9	9.4	51	110	26	35
Ammonia-N	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.64 U	0.74 U	1.7	1.1	1.5	1.1 J
Formaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-	5.0 U	0.19 J	5.0 U	5.0 U	5.0 U	5.0 U
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-	1.7 J	5.0 U	4.5 J	3.3 J	4.0 J	2.5 J
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	8.44 J	8.21 J	9.84 J	9.50 J	9.87 J	8.83 J
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	23800 J	23600 J	28500 J	4270	5210	20400 J	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	15.6	16.3	12.7	5.42	6.17	9.95	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-	18000	19000	66000	68000	89000	47000
Total solids	%	15	15.2	11.1	30.6	26.3	17.2	28.5	35.0	60.3	45.9	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SD-235-11	SD-236-11	SD-237-11	SD-238-11	SD-239-11	SD-239-11	SD-241-11	SED-334-16	SED-335-16	SED-336-16	SED-337-16
Sample ID:		S-58502-063011-SH-235	S-58502-063011-SH-236	S-58502-063011-SH-237	S-58502-063011-SH-238	S-58502-063011-SH-239	S-58502-063011-SH-240	S-58502-063011-SH-241	S-58502-031716-SSH-1628	S-58502-031716-SSH-1630	S-58502-031716-SSH-1629	S-58502-032416-SSH-1640
Sample Date:		6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	3/17/2016	3/17/2016	3/17/2016	3/24/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE (Duplicate)	SE	SE	SE	SE	SE
Parameters	**Units**											
VOAs												
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	2.2 U	2.2 U	3 U	5 U
2-Hexanone	mg/kg	-	-	-	-	-	-	-	7.2 U	7.4 U	10 U	17 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	7.2 U	7.4 U	10 U	17 U
Acetone	mg/kg	-	-	-	-	-	-	-	2.2 U	2.2 U	3 U	5 U
Benzene	mg/kg	-	-	-	-	-	-	-	0.32	0.46	0.2 U	0.33 U
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
Bromoform	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Chloroethane	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Cyclohexane	mg/kg	-	-	-	-	-	-	-	3.4 U	3.5 U	4.8 U	7.9 U
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	0.14	0.15 U	0.2 U	0.33 U
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Methyl acetate	mg/kg	-	-	-	-	-	-	-	3.4 U	3.5 U	4.8 U	7.9 U
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	3.4 U	3.5 U	4.8 U	7.9 U
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Methylene chloride	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Styrene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Toluene	mg/kg	-	-	-	-	-	-	-	0.41	0.55	0.4 U	0.66 U
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Trichloroethene	mg/kg	-	-	-	-	-	-	-	0.14 U	0.15 U	0.2 U	0.33 U
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	0.29 U	0.29 U	0.4 U	0.66 U
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	0.72 U	0.74 U	1 U	1.7 U
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	0.11 U	0.12 U	0.16 U	0.26 U
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	0.43 U	0.44 U	0.6 U	0.99 U
SVOAs												
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	5.7	5.9 U	2 U	1.2 U
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	2.5 U	3.4 U	1.2 U	0.67 U
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2.5	1.2 U
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	3.3 U	4.5 U	1.6 U	0.9 U
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	5.6	5.9 U	2 U	1.2 U
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	27 U	36 U	12 U	7.2 U
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	3.3 U	4.5 U	1.6 U	0.9 U
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	2.5 U	3.4 U	1.2 U	0.67 U
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SD-235-11	SD-236-11	SD-237-11	SD-238-11	SD-239-11	SD-239-11	SD-241-11	SED-334-16	SED-335-16	SED-336-16	SED-337-16
Sample ID:		S-58502-063011-SH-235	S-58502-063011-SH-236	S-58502-063011-SH-237	S-58502-063011-SH-238	S-58502-063011-SH-239	S-58502-063011-SH-240	S-58502-063011-SH-241	S-58502-031716-SSH-1628	S-58502-031716-SSH-1630	S-58502-031716-SSH-1629	S-58502-032416-SSH-1640
Sample Date:		6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	3/17/2016	3/17/2016	3/17/2016	3/24/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE (Duplicate)	SE	SE	SE	SE	SE
Parameters	**Units**											
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	3.3 U	4.5 U	1.6 U	0.9 U
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	3.3 U	4.5 U	1.6 U	0.9 U
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	5.5 U	7.4 U	2.6 U	1.5 U
Acenaphthene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Acetophenone	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Anthracene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Atrazine	mg/kg	-	-	-	-	-	-	-	0.67 U	0.9 U	0.31 U	0.18 U
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	1.3 U	1.8 U	0.62 U	0.36 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Caprolactam	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Carbazole	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Chrysene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Fluoranthene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Fluorene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	0.67 U	0.9 U	0.31 U	0.18 U
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Isophorone	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Naphthalene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	2.5 U	3.4 U	1.2 U	0.67 U
Phenanthrene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Phenol	mg/kg	-	-	-	-	-	-	-	14	11	2.6	1.2 U
Pyrene	mg/kg	-	-	-	-	-	-	-	4.4 U	5.9 U	2 U	1.2 U
Metals												
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	5.1 J	1.0 J	3.2 J	3.2 J	0.77 J	0.87 J	3.5 J	-	-	-	-
Arsenic	mg/kg	19	7.7	14	14	5.0	6.1	9.8	3.0 U	3.1 UF1	1.1	-
Barium	mg/kg	130	78	130	140	74	81	280	-	-	-	-
Beryllium	mg/kg	1.7	0.19 U	1.9	1.8	0.25 U	0.93	2.6	-	-	-	-
Cadmium	mg/kg	5.9	1.4	6.0	5.2	0.72	0.67	2.0	6.4	7.1	8.9	0.21
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	130	46	130	110	39	47	130	76 B	72 B	70 B	-
Cobalt	mg/kg	6.2	7.3	7.7	8.4	5.3	5.8	5.2	-	-	-	-
Copper	mg/kg	120	44	130	120	30	34	67	1.5 U	1.5 UF1F2	1.9 U	5.0
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	900	210	840	760	120	140	370	860	790	710	28
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	4900	1500	4800	4500	1300	1600	6900	-	-	-	-
Mercury	mg/kg	0.17	0.078	0.14	0.14	0.048 J	0.040 J	0.15	0.012 U	0.012 U	0.015 U	0.0078 U
Nickel	mg/kg	45	26	46	43	19	22	24	23	22	27	6.4
Potassium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	3.3	0.89	3.1	2.9	0.84	0.89	3.1	-	-	-	-
Silver	mg/kg	2.9	0.58	2.3	1.9	0.59	0.78	1.3	1.5 U	1.5 UF1	1.9 U	-
Sodium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	5.0 J	6.0 J	18 U	19 U	0.17 J	0.23	0.86	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	16	23	22	27	18	20	17	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SD-235-11	SD-236-11	SD-237-11	SD-238-11	SD-239-11	SD-239-11	SD-241-11	SED-334-16	SED-335-16	SED-336-16	SED-337-16
Sample ID:		S-58502-063011-SH-235	S-58502-063011-SH-236	S-58502-063011-SH-237	S-58502-063011-SH-238	S-58502-063011-SH-239	S-58502-063011-SH-240	S-58502-063011-SH-241	S-58502-031716-SSH-1628	S-58502-031716-SSH-1630	S-58502-031716-SSH-1629	S-58502-032416-SSH-1640
Sample Date:		6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	3/17/2016	3/17/2016	3/17/2016	3/24/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE (Duplicate)	SE	SE	SE	SE	SE
Parameters	**Units**											
Zinc	mg/kg	41000	6800	26000	21000	1500	980	2100	5400	7200	8000	110
MetalsSEM												
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	8.8	11	7.6	5.4	3.6	3.6	1.3	0.96	1.2	1.1	0.078
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016 (PCB-1016)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1221 (PCB-1221)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1232 (PCB-1232)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1242 (PCB-1242)	mg/kg	0.81 U	0.073 J	0.1 J	0.75 U	0.2 J	2.6 J	4.2 J	0.66	0.35	0.2	0.15 U
Aroclor-1248 (PCB-1248)	mg/kg	0.074 J	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1254 (PCB-1254)	mg/kg	0.81 U	0.052 J	0.068 J	0.75 U	0.42 U	0.7 J	0.99 J	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1260 (PCB-1260)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	0.34 U	0.075 U	0.086 U	0.15 U
Aroclor-1262 (PCB-1262)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	0.81 U	0.51 U	0.67 U	0.75 U	0.42 U	4.1 U	5.5 U	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Wet												
Ammonia	mg/kg	64	46	82	47	85	65	61	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	4.1	0.96 U	2.0	2.5	0.78 U	0.74 U	3.5	-	-	-	-
Formaldehyde	mg/kg	-	-	-	-	-	-	-	82	110	120	25
Nitrate (as N)	mg/kg	5.0 U	5.0 U	5.1 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	-
Nitrite (as N)	mg/kg	0.15 J	5.0 U	5.1 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	-
Orthophosphate	mg/kg	6.4	3.9 J	3.8 J	2.7 J	4.3 J	2.7 J	1.7 J	-	-	-	-
pH, lab	s.u.	8.65	8.80	8.71	8.77	8.48	8.36	8.70	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	3000	3000 F2	3900	840
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	44000 J	41000 J	37000 J	37000 J	32000 J	20000 J	57000 J	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SED-341-16**	**SED-342-16**	**SED-346-16**	**SED-351-16**	**SED-353-16**	**SO-352-16**	**SO-354-16**	**SS-01**	**SS-01**	**SS-02**
Sample ID:		**S-58502-032416-SSH-1639**	**S-58502-032416-SSH-1638**	**S-58502-031716-SSH-1627**	**S-58502-031716-SSH-1625**	**S-58502-031716-SSH-1626**	**S-58502-032416-SSH-1642**	**S-58502-032416-SSH-1641**	**S-58502-050516-SSH-SS1A**	**S-58502-050516-SSH-SS1B**	**S-58502-050516-SSH-SS2A**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**	**3/17/2016**	**3/17/2016**	**3/24/2016**	**3/24/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(0-12) in BTS**	**(12-23) in BTS**	**(0-8) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**CL**	**SE**	**CL**	**SE**
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,1,2-Trichloroethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,1-Dichloroethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,1-Dichloroethene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
1,2-Dichlorobenzene	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
1,2-Dichloroethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,2-Dichloropropane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
1,3-Dichlorobenzene	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
1,4-Dichlorobenzene	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	1.3 U	1.7 U	2.4 U	2 U	3.4 U	2.9 U	0.89 U	-	-	-
2-Hexanone	mg/kg	4.2 U	5.5 U	8.2 U	6.8 U	11 U	9.6 U	3 U	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	4.2 U	5.5 U	8.2 U	6.8 U	11 U	9.6 U	3 U	-	-	-
Acetone	mg/kg	1.3 U	1.7 U	2.4 U	2 U	3.4 U	2.9 U	0.89 U	-	-	-
Benzene	mg/kg	0.085 U	0.11 U	0.16 U	0.28	0.22 U	0.34	0.059 U	-	-	-
Bromodichloromethane	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
Bromoform	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
Bromomethane (Methyl bromide)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Carbon disulfide	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Carbon tetrachloride	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Chlorobenzene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Chloroethane	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Chloroform (Trichloromethane)	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Chloromethane (Methyl chloride)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
cis-1,2-Dichloroethene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
cis-1,3-Dichloropropene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Cyclohexane	mg/kg	2 U	2.6 U	3.9 U	3.2 U	5.4 U	4.6 U	1.4 U	-	-	-
Dibromochloromethane	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
Ethylbenzene	mg/kg	0.085 U	0.11 U	0.16 U	0.17	0.22 U	0.22	0.059 U	-	-	-
Isopropyl benzene	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Methyl acetate	mg/kg	2 U	2.6 U	3.9 U	3.2 U	5.4 U	4.6 U	1.4 U	-	-	-
Methyl cyclohexane	mg/kg	2 U	2.6 U	3.9 U	3.2 U	5.4 U	4.6 U	1.4 U	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Methylene chloride	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Styrene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Tetrachloroethene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Toluene	mg/kg	0.17 U	0.22 U	0.33 U	0.32	0.45 U	0.43	0.12 U	-	-	-
trans-1,2-Dichloroethene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
trans-1,3-Dichloropropene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Trichloroethene	mg/kg	0.085 U	0.11 U	0.16 U	0.14 U	0.22 U	0.19 U	0.059 U	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	0.17 U	0.22 U	0.33 U	0.27 U	0.45 U	0.38 U	0.12 U	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	0.42 U	0.55 U	0.82 U	0.68 U	1.1 U	0.96 U	0.3 U	-	-	-
Vinyl chloride	mg/kg	0.068 U	0.088 U	0.13 U	0.11 U	0.18 U	0.15 U	0.048 U	-	-	-
Xylenes (total)	mg/kg	0.25 U	0.33 U	0.49 U	0.41 U	0.67 U	0.58 U	0.18 U	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,4,5-Trichlorophenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,4,6-Trichlorophenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,4-Dichlorophenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,4-Dimethylphenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,4-Dinitrophenol	mg/kg	0.84 U	0.28 U	1.4 U	0.31 U	0.8 U	2.6 U	0.19 U	-	-	-
2,4-Dinitrotoluene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2,6-Dinitrotoluene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2-Chloronaphthalene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2-Chlorophenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
2-Methylnaphthalene	mg/kg	1.5 U	0.49 U	2.4 U	1.6	1.7	4.5 U	0.33 U	-	-	-
2-Methylphenol	mg/kg	1.5 U	0.49 U	2.4 U	0.66	1.4 U	4.5 U	0.33 U	-	-	-
2-Nitroaniline	mg/kg	1.1 U	0.37 U	1.8 U	0.41 U	1.1 U	3.4 U	0.25 U	-	-	-
2-Nitrophenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
3&4-Methylphenol	mg/kg	1.5 U	0.49 U	2.4 U	0.65	1.4 U	4.5 U	0.33 U	-	-	-
3,3'-Dichlorobenzidine	mg/kg	8.9 U	3 U	15 U	3.3 U	8.5 U	27 U	2 U	-	-	-
3-Nitroaniline	mg/kg	1.1 U	0.37 U	1.8 U	0.41 U	1.1 U	3.4 U	0.25 U	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	0.84 U	0.28 U	1.4 U	0.31 U	0.8 U	2.6 U	0.19 U	-	-	-
4-Bromophenyl phenyl ether	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
4-Chloro-3-methylphenol	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SED-341-16**	**SED-342-16**	**SED-346-16**	**SED-351-16**	**SED-353-16**	**SO-352-16**	**SO-354-16**	**SS-01**	**SS-01**	**SS-02**
Sample ID:		**S-58502-032416-SSH-1639**	**S-58502-032416-SSH-1638**	**S-58502-031716-SSH-1627**	**S-58502-031716-SSH-1625**	**S-58502-031716-SSH-1626**	**S-58502-032416-SSH-1642**	**S-58502-032416-SSH-1641**	**S-58502-050516-SSH-SS1A**	**S-58502-050516-SSH-SS1B**	**S-58502-050516-SSH-SS2A**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**	**3/17/2016**	**3/17/2016**	**3/24/2016**	**3/24/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(0-12) in BTS**	**(12-23) in BTS**	**(0-8) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**CL**	**SE**	**CL**	**SE**
Parameters	**Units**										
4-Chloroaniline	mg/kg	1.1 U	0.37 U	1.8 U	0.41 U	1.1 U	3.4 U	0.25 U	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
4-Nitroaniline	mg/kg	1.1 U	0.37 U	1.8 U	0.41 U	1.1 U	3.4 U	0.25 U	-	-	-
4-Nitrophenol	mg/kg	1.8 U	0.61 U	3 U	0.67 U	1.8 U	5.7 U	0.41 U	-	-	-
Acenaphthene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Acenaphthylene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Acetophenone	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Anthracene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Atrazine	mg/kg	0.22 U	0.074 U	0.37 U	0.082 U	0.21 U	0.69 U	0.05 U	-	-	-
Benzaldehyde	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Benzo(a)anthracene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Benzo(a)pyrene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Benzo(b)fluoranthene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Benzo(g,h,i)perylene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Benzo(k)fluoranthene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
bis(2-Chloroethyl)ether	mg/kg	0.45 U	0.15 U	0.73 U	0.16 U	0.43 U	1.4 U	0.1 U	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	1.5 U	0.49 U	2.4 U	0.63	1.4 U	4.5 U	0.49	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Caprolactam	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Carbazole	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Chrysene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Dibenz(a,h)anthracene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Dibenzofuran	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Diethyl phthalate	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Dimethyl phthalate	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Fluoranthene	mg/kg	1.5 U	0.49 U	2.4 U	1.1	1.4 U	4.5 U	0.33 U	-	-	-
Fluorene	mg/kg	1.5 U	0.49 U	2.4 U	0.56	1.4 U	4.5 U	0.33 U	-	-	-
Hexachlorobenzene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Hexachlorobutadiene	mg/kg	0.22 U	0.074 U	0.37 U	0.082 U	0.21 U	0.69 U	0.05 U	-	-	-
Hexachlorocyclopentadiene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Hexachloroethane	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Isophorone	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Naphthalene	mg/kg	1.5 U	0.49 U	2.4 U	1	1.4 U	4.5 U	0.33 U	-	-	-
Nitrobenzene	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
N-Nitrosodiphenylamine	mg/kg	1.5 U	0.49 U	2.4 U	0.54 U	1.4 U	4.5 U	0.33 U	-	-	-
Pentachlorophenol	mg/kg	0.84 U	0.28 U	1.4 U	0.31 U	0.8 U	2.6 U	0.19 U	-	-	-
Phenanthrene	mg/kg	1.5 U	0.49 U	2.4 U	1.3	1.4 U	4.5 U	0.33 U	-	-	-
Phenol	mg/kg	1.5 U	0.49 U	2.4 U	1.3	1.4 U	4.5 U	0.33 U	-	-	-
Pyrene	mg/kg	1.5 U	0.49 U	2.4 U	0.97	1.4 U	4.5 U	0.33 U	-	-	-
Metals											
Aluminum	mg/kg	-	-	-	-	-	-	-	5500	7400	-
Antimony	mg/kg	-	-	-	-	-	-	-	0.35	0.14	-
Arsenic	mg/kg	-	-	1.3 U	3.0 U	2.0	-	-	2.8	3.3	-
Barium	mg/kg	-	-	-	-	-	-	-	33	43	-
Beryllium	mg/kg	-	-	-	-	-	-	-	0.29	0.36	-
Cadmium	mg/kg	1.5	0.37	20	5.0	7.1	3.1	0.15 U	0.58	0.17	-
Calcium	mg/kg	-	-	-	-	-	-	-	66000	68000	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	72 B	97 B	90 B	-	-	15	22	-
Cobalt	mg/kg	-	-	-	-	-	-	-	3.9	4.9	-
Copper	mg/kg	19 F1	9.7	3.4 U	13	2.2 U	27	6.4	13 B	16 B	-
Iron	mg/kg	-	-	-	-	-	-	-	9300	14000	-
Lead	mg/kg	280	31	1500	510	760	540	3.4	25	11	-
Magnesium	mg/kg	-	-	-	-	-	-	-	20000	22000	-
Manganese	mg/kg	-	-	-	-	-	-	-	640	360	-
Mercury	mg/kg	0.0082 U	0.0069 U	0.027 U	0.012 U	0.018 U	0.0097 U	0.0059 U	0.057 U	0.045 U	-
Nickel	mg/kg	13	8.2	34	25	22	19	5.9 U	12	18	-
Potassium	mg/kg	-	-	-	-	-	-	-	1200	1600	-
Selenium	mg/kg	-	-	-	-	-	-	-	1.9	2.1	-
Silver	mg/kg	-	-	3.4 U	1.5 U	2.2 U	-	-	0.10 U	0.070 U	-
Sodium	mg/kg	-	-	-	-	-	-	-	290	200	-
Thallium	mg/kg	-	-	-	-	-	-	-	0.17	0.11	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	13	16	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SED-341-16**	**SED-342-16**	**SED-346-16**	**SED-351-16**	**SED-353-16**	**SO-352-16**	**SO-354-16**	**SS-01**	**SS-01**	**SS-02**
Sample ID:		**S-58502-032416-SSH-1639**	**S-58502-032416-SSH-1638**	**S-58502-031716-SSH-1627**	**S-58502-031716-SSH-1625**	**S-58502-031716-SSH-1626**	**S-58502-032416-SSH-1642**	**S-58502-032416-SSH-1641**	**S-58502-050516-SSH-SS1A**	**S-58502-050516-SSH-SS1B**	**S-58502-050516-SSH-SS2A**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**	**3/17/2016**	**3/17/2016**	**3/24/2016**	**3/24/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(0-12) in BTS**	**(12-23) in BTS**	**(0-8) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**CL**	**SE**	**CL**	**SE**
Parameters	**Units**										
Zinc	mg/kg	910	150	19000	3600	7700	9300	16	150	77	-
MetalsSEM											
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	0.59	0.25	0.54	2.7	1.4	13	0.0010 NC	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	0.047 U	0.062 U	1.5 U	0.066 U	0.088 U	0.85 U	0.041 U	0.051 U	0.039 U	0.072 U
Aroclor-1221 (PCB-1221)	mg/kg	0.047 U	0.062 U	1.5 U	0.066 U	0.088 U	0.85 U	0.041 U	0.051 U	0.039 U	0.072 U
Aroclor-1232 (PCB-1232)	mg/kg	0.047 U	0.062 U	1.5 U	0.066 U	0.088 U	0.85 U	0.041 U	0.051 U	0.039 U	0.072 U
Aroclor-1242 (PCB-1242)	mg/kg	0.38	0.13	7.6	0.34	0.36	3.6	0.061	0.051 U	0.039 U	0.072 U
Aroclor-1248 (PCB-1248)	mg/kg	0.047 U	0.062 U	1.5 U	0.066 U	0.088 U	0.85 U	0.041 U	0.051 U	0.039 U	0.2
Aroclor-1254 (PCB-1254)	mg/kg	0.13	0.062 U	1.5 U	0.075	0.16	0.85 U	0.041 U	0.051 U	0.039 U	0.072 U
Aroclor-1260 (PCB-1260)	mg/kg	0.047 U	0.062 U	1.5 U	0.066 U	0.088 U	0.85 U	0.041 U	0.051 U	0.039 U	0.072 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
Wet											
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-	-	-	340	160	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	0.83 U	0.55 U	-
Formaldehyde	mg/kg	46	13 F2	97	84	64	52	3.6	3.2	2.4 U	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	860	350	18000	740	2900	360	18 U	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	6000	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-02**	**SS-03**	**SS-04**	**SS-04**	**SS-05**	**SS-06**	**SS-06**	**SS-07**	**SS-07**	**SS-08**
Sample ID:		**S-58502-050516-SSH-SS2B**	**S-58502-050516-SSH-SS3A**	**S-58502-050516-SSH-SS4A**	**S-58502-050516-SSH-SS4B**	**S-58502-050516-SSH-SS5A**	**S-58502-050316-SSH-SS06A**	**S-58502-050316-SSH-SS06B**	**S-58502-050316-SSH-SS07A**	**S-58502-050316-SSH-SS07B**	**S-58502-050316-SSH-SS08A**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**
Sample Depth:		**(8-24) in BTS**	**(3-20) in BTS**	**(0-12) in BTS**	**(12-22) in BTS**	**(11-18) in BTS**	**(0-21) in BTS**	**(21-30) in BTS**	**(0-8) in BTS**	**(8-57) in BTS**	**(0-13) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**CL**	**SE**	**SE**	**SE**
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-02**	**SS-03**	**SS-04**	**SS-04**	**SS-05**	**SS-06**	**SS-06**	**SS-07**	**SS-07**	**SS-08**
Sample ID:		**S-58502-050516-SSH-SS2B**	**S-58502-050516-SSH-SS3A**	**S-58502-050516-SSH-SS4A**	**S-58502-050516-SSH-SS4B**	**S-58502-050516-SSH-SS5A**	**S-58502-050316-SSH-SS06A**	**S-58502-050316-SSH-SS06B**	**S-58502-050316-SSH-SS07A**	**S-58502-050316-SSH-SS07B**	**S-58502-050316-SSH-SS08A**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**
Sample Depth:		**(8-24) in BTS**	**(3-20) in BTS**	**(0-12) in BTS**	**(12-22) in BTS**	**(11-18) in BTS**	**(0-21) in BTS**	**(21-30) in BTS**	**(0-8) in BTS**	**(8-57) in BTS**	**(0-13) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**CL**	**SE**	**SE**	**SE**
Parameters	**Units**										
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Metals											
Aluminum	mg/kg	-	15000	6700	6100	6600	14000	8000	20000	22000	-
Antimony	mg/kg	-	2.4	0.28	0.14 U	0.38	22	0.47	3.5	3.2	-
Arsenic	mg/kg	-	8.0	3.3	3.0	3.1	36	4.5	13	13	-
Barium	mg/kg	-	98	46	39	43	140	57	150	150	-
Beryllium	mg/kg	-	1.2	0.40	0.32	0.35	1.2	0.49	1.7	1.8	-
Cadmium	mg/kg	-	3.2	0.23	0.18	0.82	17 F1	0.47	5.4	5.3	-
Calcium	mg/kg	-	24000	59000	63000	72000	51000 F1	33000	38000	29000	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	79	20	17	17	110	47	110	130	-
Cobalt	mg/kg	-	4.5	4.1	4.4	4.6	8.8	4.0	5.4	5.5	-
Copper	mg/kg	-	66 B	30 B	11 B	17 B	350	25	96	100	-
Iron	mg/kg	-	43000	12000	11000	10000	42000	15000	55000	63000	-
Lead	mg/kg	-	490	24	16	38	1300	94	770	780	-
Magnesium	mg/kg	-	7000	19000	20000	22000	8800	8300	9200	8600	-
Manganese	mg/kg	-	830	610	420	610	4400	1000	6300	6800	-
Mercury	mg/kg	-	0.083 U	0.044 U	0.049 U	0.055 U	0.13 U	0.047 U	0.33	0.076 U	-
Nickel	mg/kg	-	23	13	14	14	38	31	28	29	-
Potassium	mg/kg	-	1600	1300	1200	1400	1700	1000	2500	3100	-
Selenium	mg/kg	-	4.8	2.2	1.9	2.0	20	2.5	7.6	7.4	-
Silver	mg/kg	-	1.4	0.096 U	0.072 U	0.12	3.9	0.15	2.4	2.5	-
Sodium	mg/kg	-	840	260	200	280	1300 B	350 B	1200 B	1200 B	-
Thallium	mg/kg	-	0.51	0.11	0.11	0.25	9.3	0.21	1.1	0.98	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	15	14	14	15	53	15	18	19	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-02	SS-03	SS-04	SS-04	SS-05	SS-06	SS-06	SS-07	SS-07	SS-08
Sample ID:		S-58502-050516-SSH-SS2B	S-58502-050516-SSH-SS3A	S-58502-050516-SSH-SS4A	S-58502-050516-SSH-SS4B	S-58502-050516-SSH-SS5A	S-58502-050316-SSH-SS06A	S-58502-050316-SSH-SS06B	S-58502-050316-SSH-SS07A	S-58502-050316-SSH-SS07B	S-58502-050316-SSH-SS08A
Sample Date:		5/5/2016	5/5/2016	5/5/2016	5/5/2016	5/5/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016
Sample Depth:		(8-24) in BTS	(3-20) in BTS	(0-12) in BTS	(12-22) in BTS	(11-18) in BTS	(0-21) in BTS	(21-30) in BTS	(0-8) in BTS	(8-57) in BTS	(0-13) in BTS
matrix_code		SE	SE	SE	SE	CL	SE	CL	SE	SE	SE
Parameters	**Units**										
Zinc	mg/kg	-	420	340	180	230	24000	340	3900	3300	-
MetalsSEM											
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	0.052 U	0.06 U	0.042 U	0.04 U	0.046 U	1.1 U	0.041 U	0.69 U	0.33 U	0.057 U
Aroclor-1221 (PCB-1221)	mg/kg	0.052 U	0.06 U	0.042 U	0.04 U	0.046 U	1.1 U	0.041 U	0.69 U	0.33 U	0.057 U
Aroclor-1232 (PCB-1232)	mg/kg	0.052 U	0.06 U	0.042 U	0.04 U	0.046 U	1.1 U	0.041 U	0.69 U	0.33 U	0.057 U
Aroclor-1242 (PCB-1242)	mg/kg	0.13	0.06 U	0.042 U	0.04 U	0.046 U	1.1 U	0.11	2.6	2.9	0.13
Aroclor-1248 (PCB-1248)	mg/kg	0.052 U	0.34 p	0.042 U	0.04 U	0.049	1.1 U	0.041 U	0.69 U	0.33 U	0.057 U
Aroclor-1254 (PCB-1254)	mg/kg	0.052 U	0.06 U	0.042 U	0.04 U	0.046 U	1.1 U	0.067	0.69 U	0.62	0.057 U
Aroclor-1260 (PCB-1260)	mg/kg	0.052 U	0.06 p	0.042 U	0.04 U	0.046 U	1.1 U	0.041 U	0.69 U	0.33 U	0.057 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
Wet											
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	370	150	140	170	720	120	230	95 U	-
Cyanide (total)	mg/kg	-	0.92 U	1.1	0.56 U	0.65 U	8.2 U	0.62 U	1.7	1.4	-
Formaldehyde	mg/kg	-	40	4.5 U	2.4 U	3.0	50	4.1	83	57	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	16000	3500	-	-	100000	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-08**	**SS-09**	**SS-09**	**SS-10**	**SS-10**	**SS-11**	**SS-11**	**SS-12**	**SS-12**
Sample ID:		**S-58502-050316-SSH-SS08B**	**S-58502-050316-SSH-SS09A**	**S-58502-050316-SSH-SS09B**	**S-58502-050316-SSH-SS10A**	**S-58502-050316-SSH-SS10B**	**S-58502-050316-SSH-SS11A**	**S-58502-050316-SSH-SS11B**	**S-58502-050316-SSH-SS12A**	**S-58502-050316-SSH-SS12B**
Sample Date:		**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**
Sample Depth:		**(13-27) in BTS**	**(0-10) in BTS**	**(10-37) in BTS**	**(0-13) in BTS**	**(13-58) in BTS**	**(0-26) in BTS**	**(26-34) in BTS**	**(0-12) in BTS**	**(12-44) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-08**	**SS-09**	**SS-09**	**SS-10**	**SS-10**	**SS-11**	**SS-11**	**SS-12**	**SS-12**
Sample ID:		**S-58502-050316-SSH-SS08B**	**S-58502-050316-SSH-SS09A**	**S-58502-050316-SSH-SS09B**	**S-58502-050316-SSH-SS10A**	**S-58502-050316-SSH-SS10B**	**S-58502-050316-SSH-SS11A**	**S-58502-050316-SSH-SS11B**	**S-58502-050316-SSH-SS12A**	**S-58502-050316-SSH-SS12B**
Sample Date:		**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**
Sample Depth:		**(13-27) in BTS**	**(0-10) in BTS**	**(10-37) in BTS**	**(0-13) in BTS**	**(13-58) in BTS**	**(0-26) in BTS**	**(26-34) in BTS**	**(0-12) in BTS**	**(12-44) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	-	13000	20000	7300	14000	28000	6900	-	-
Antimony	mg/kg	-	2.3	2.9	3.2	1.5	4.6	0.36	-	-
Arsenic	mg/kg	-	8.2	12	7.5	7.0	18	3.5	-	-
Barium	mg/kg	-	81	89	50	86	190	49	-	-
Beryllium	mg/kg	-	1.1	1.5	0.56	0.95	2.2	0.40	-	-
Cadmium	mg/kg	-	2.2	3.1	5.3	1.9	5.1	0.61	-	-
Calcium	mg/kg	-	21000	23000	14000	23000	38000	58000	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	71	130	43	83	170	20	-	-
Cobalt	mg/kg	-	3.9	7.5	2.2	4.0	8.9	5.9	-	-
Copper	mg/kg	-	57	97	41	62	130	17	-	-
Iron	mg/kg	-	39000	70000	20000	42000	79000	13000	-	-
Lead	mg/kg	-	380	420	120	270	700	64	-	-
Magnesium	mg/kg	-	4800	7700	2300	5400	10000	17000	-	-
Manganese	mg/kg	-	2200	3800	1100	2900	7800	540	-	-
Mercury	mg/kg	-	0.11 U	0.075 U	0.061 U	0.061 U	0.12 U	0.057 U	-	-
Nickel	mg/kg	-	23	46	12	24	47	16	-	-
Potassium	mg/kg	-	1200	1900	660 U	1400	1800	880	-	-
Selenium	mg/kg	-	4.9	6.8	2.9	4.2	10	3.2	-	-
Silver	mg/kg	-	0.83	1.3	0.34	0.88	2.9	0.26	-	-
Sodium	mg/kg	-	940 B	1200 B	440 B	930 B	1000 B	230 B	-	-
Thallium	mg/kg	-	0.45	0.66	0.96	0.40	1.1	0.16	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	14	19	11	15	29	16	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-08**	**SS-09**	**SS-09**	**SS-10**	**SS-10**	**SS-11**	**SS-11**	**SS-12**	**SS-12**
Sample ID:		**S-58502-050316-SSH-SS08B**	**S-58502-050316-SSH-SS09A**	**S-58502-050316-SSH-SS09B**	**S-58502-050316-SSH-SS10A**	**S-58502-050316-SSH-SS10B**	**S-58502-050316-SSH-SS11A**	**S-58502-050316-SSH-SS11B**	**S-58502-050316-SSH-SS12A**	**S-58502-050316-SSH-SS12B**
Sample Date:		**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**
Sample Depth:		**(13-27) in BTS**	**(0-10) in BTS**	**(10-37) in BTS**	**(0-13) in BTS**	**(13-58) in BTS**	**(0-26) in BTS**	**(26-34) in BTS**	**(0-12) in BTS**	**(12-44) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**
Parameters	**Units**									
Zinc	mg/kg	-	1800	3100	1100	1200	8100	1500	-	-
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.04 U	0.89 U	0.065 U	0.058 U	0.056 U	0.49 U	0.22 U	1.2 U	12 U
Aroclor-1221 (PCB-1221)	mg/kg	0.04 U	0.89 U	0.065 U	0.058 U	0.056 U	0.49 U	0.22 U	1.2 U	12 U
Aroclor-1232 (PCB-1232)	mg/kg	0.04 U	0.89 U	0.065 U	0.058 U	0.056 U	0.49 U	0.22 U	1.2 U	12 U
Aroclor-1242 (PCB-1242)	mg/kg	0.04 U	0.89 U	0.086	0.089	0.27	2.7	0.39	1.2 U	39
Aroclor-1248 (PCB-1248)	mg/kg	0.04 U	0.89 U	0.065 U	0.058 U	0.056 U	0.49 U	0.22 U	1.2 U	12 U
Aroclor-1254 (PCB-1254)	mg/kg	0.04 U	0.89 U	0.075	0.058 U	0.12	0.97	0.22 U	1.2 U	12 U
Aroclor-1260 (PCB-1260)	mg/kg	0.04 U	0.89 U	0.065 U	0.058 U	0.056 U	0.49 U	0.22 U	1.2 U	12 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	150	97 U	84 U	82 U	480	74	-	-
Cyanide (total)	mg/kg	-	1.5 U	1.0 U	0.87 U	0.88 U	13	0.66 U	-	-
Formaldehyde	mg/kg	-	55	91	30	75	98	8.3	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	14000	17000	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-13**	**SS-13**	**SS-14**	**SS-14**	**SS-14**	**SS-14**	**SS-15**	**SS-15**	**SS-16**
Sample ID:		**S-58502-050316-SSH-SS13A**	**S-58502-050316-SSH-SS13B**	**S-58502-050316-SSH-SS14A**	**S-58502-050316-SSH-SS14B**	**S-58502-050316-SSH-SS14C**	**S-58502-050316-SSH-SS14D**	**S-58502-050316-SSH-SS15A**	**S-58502-050316-SSH-SS15B**	**S-58502-050416-SSH-SS16A**
Sample Date:		**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/4/2016**
Sample Depth:		**(0-30) in BTS**	**(30-54) in BTS**	**(0-25) in BTS**	**(25-45) in BTS**	**(45-57) in BTS**	**(45-57) in BTS**	**(0-27) in BTS**	**(27-34) in BTS**	**(0-17) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**CL (Duplicate)**	**SE**	**SE**	**SE**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-13	SS-13	SS-14	SS-14	SS-14	SS-14	SS-15	SS-15	SS-16
Sample ID:		S-58502-050316-SSH-SS13A	S-58502-050316-SSH-SS13B	S-58502-050316-SSH-SS14A	S-58502-050316-SSH-SS14B	S-58502-050316-SSH-SS14C	S-58502-050316-SSH-SS14D	S-58502-050316-SSH-SS15A	S-58502-050316-SSH-SS15B	S-58502-050416-SSH-SS16A
Sample Date:		5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016	5/4/2016
Sample Depth:		(0-30) in BTS	(30-54) in BTS	(0-25) in BTS	(25-45) in BTS	(45-57) in BTS	(45-57) in BTS	(0-27) in BTS	(27-34) in BTS	(0-17) in BTS
matrix_code		SE	SE	SE	SE	CL	CL (Duplicate)	SE	SE	SE
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	18000	18000	-	-	-	-	21000	32000	-
Antimony	mg/kg	7.7	2.2	-	-	-	-	3.9	5.0	-
Arsenic	mg/kg	24	11	-	-	-	-	12	20	-
Barium	mg/kg	150	100	-	-	-	-	150	210	-
Beryllium	mg/kg	1.5	1.3	-	-	-	-	1.3	2.2	-
Cadmium	mg/kg	12	2.5	-	-	-	-	2.5	3.8	-
Calcium	mg/kg	59000	26000	-	-	-	-	24000	37000	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	150	100	-	-	-	-	130	190	-
Cobalt	mg/kg	8.1	5.4	-	-	-	-	5.6	9.9	-
Copper	mg/kg	220	78	-	-	-	-	85	140	-
Iron	mg/kg	69000	58000	-	-	-	-	53000	90000	-
Lead	mg/kg	1500	380	-	-	-	-	370	660	-
Magnesium	mg/kg	10000	7200	-	-	-	-	8000	13000	-
Manganese	mg/kg	8000	4000	-	-	-	-	4900	9400	-
Mercury	mg/kg	0.19 U	0.068 U	-	-	-	-	0.085 U	0.13 U	-
Nickel	mg/kg	47	33	-	-	-	-	31	54	-
Potassium	mg/kg	1700	2100	-	-	-	-	1600	2400	-
Selenium	mg/kg	9.2	6.0	-	-	-	-	7.6	12	-
Silver	mg/kg	3.8	1.1	-	-	-	-	1.9	3.0	-
Sodium	mg/kg	1100 B	930 B	-	-	-	-	900 B	1200 B	-
Thallium	mg/kg	1.6	0.51	-	-	-	-	0.90	1.2	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	28	17	-	-	-	-	19	28	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-13**	**SS-13**	**SS-14**	**SS-14**	**SS-14**	**SS-14**	**SS-15**	**SS-15**	**SS-16**
Sample ID:		**S-58502-050316-SSH-SS13A**	**S-58502-050316-SSH-SS13B**	**S-58502-050316-SSH-SS14A**	**S-58502-050316-SSH-SS14B**	**S-58502-050316-SSH-SS14C**	**S-58502-050316-SSH-SS14D**	**S-58502-050316-SSH-SS15A**	**S-58502-050316-SSH-SS15B**	**S-58502-050416-SSH-SS16A**
Sample Date:		**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/3/2016**	**5/4/2016**
Sample Depth:		**(0-30) in BTS**	**(30-54) in BTS**	**(0-25) in BTS**	**(25-45) in BTS**	**(45-57) in BTS**	**(45-57) in BTS**	**(0-27) in BTS**	**(27-34) in BTS**	**(0-17) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**CL (Duplicate)**	**SE**	**SE**	**SE**
Parameters	**Units**									
Zinc	mg/kg	33000	2100	-	-	-	-	2500	3100	-
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.68 U	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	4.6 U	0.53 U
Aroclor-1221 (PCB-1221)	mg/kg	0.68 U	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	4.6 U	0.53 U
Aroclor-1232 (PCB-1232)	mg/kg	0.68 U	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	4.6 U	0.53 U
Aroclor-1242 (PCB-1242)	mg/kg	0.68 U	3.2	2.2 P	1.8	1.5	1.7	56	42	0.53 U
Aroclor-1248 (PCB-1248)	mg/kg	2.6	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	4.6 U	1.1
Aroclor-1254 (PCB-1254)	mg/kg	0.68 U	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	6	0.53 U
Aroclor-1260 (PCB-1260)	mg/kg	0.68 U	0.61 U	0.48 U	0.48 U	0.44 U	0.45 U	12 U	4.6 U	0.53 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	620	91 U	-	-	-	-	250	370	-
Cyanide (total)	mg/kg	2.0 U	1.9	-	-	-	-	2.6	1.4	-
Formaldehyde	mg/kg	130	68	-	-	-	-	50	71	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	52000	140000	-	-	-	-	35000	63000	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-16**	**SS-17**	**SS-17**	**SS-18**	**SS-18**	**SS-18**	**SS-19**	**SS-19**	**SS-19**
Sample ID:		**S-58502-050416-SSH-SS16B**	**S-58502-050416-SSH-SS17A**	**S-58502-050416-SSH-SS17B**	**S-58502-050416-SSH-SS18A**	**S-58502-050416-SSH-SS18B**	**S-58502-050416-SSH-SS18C**	**S-58502-050416-SSH-SS19A**	**S-58502-050416-SSH-SS19B**	**S-58502-050416-SSH-SS19C**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(26-41) in BTS**	**(0-16) in BTS**	**(16-32) in BTS**	**(10-20) in BTS**	**(20-55) in BTS**	**(55-59) in BTS**	**(4-10) in BTS**	**(10-56) in BTS**	**(56-58) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**CL**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-16**	**SS-17**	**SS-17**	**SS-18**	**SS-18**	**SS-18**	**SS-19**	**SS-19**	**SS-19**
Sample ID:		**S-58502-050416-SSH-SS16B**	**S-58502-050416-SSH-SS17A**	**S-58502-050416-SSH-SS17B**	**S-58502-050416-SSH-SS18A**	**S-58502-050416-SSH-SS18B**	**S-58502-050416-SSH-SS18C**	**S-58502-050416-SSH-SS19A**	**S-58502-050416-SSH-SS19B**	**S-58502-050416-SSH-SS19C**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(26-41) in BTS**	**(0-16) in BTS**	**(16-32) in BTS**	**(10-20) in BTS**	**(20-55) in BTS**	**(55-59) in BTS**	**(4-10) in BTS**	**(10-56) in BTS**	**(56-58) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**CL**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Calcium	mg/kg	-	-	-	-	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-16**	**SS-17**	**SS-17**	**SS-18**	**SS-18**	**SS-18**	**SS-19**	**SS-19**	**SS-19**
Sample ID:		**S-58502-050416-SSH-SS16B**	**S-58502-050416-SSH-SS17A**	**S-58502-050416-SSH-SS17B**	**S-58502-050416-SSH-SS18A**	**S-58502-050416-SSH-SS18B**	**S-58502-050416-SSH-SS18C**	**S-58502-050416-SSH-SS19A**	**S-58502-050416-SSH-SS19B**	**S-58502-050416-SSH-SS19C**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(26-41) in BTS**	**(0-16) in BTS**	**(16-32) in BTS**	**(10-20) in BTS**	**(20-55) in BTS**	**(55-59) in BTS**	**(4-10) in BTS**	**(10-56) in BTS**	**(56-58) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**CL**
Parameters	**Units**									
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	7.1 U	12 U	0.21 U
Aroclor-1221 (PCB-1221)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	7.1 U	12 U	0.21 U
Aroclor-1232 (PCB-1232)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	7.1 U	12 U	0.21 U
Aroclor-1242 (PCB-1242)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	27	110	0.59
Aroclor-1248 (PCB-1248)	mg/kg	38	2.1	2.1	13	1.4	0.18	7.1 U	12 U	0.21 U
Aroclor-1254 (PCB-1254)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	7.1 U	12 U	0.21 U
Aroclor-1260 (PCB-1260)	mg/kg	5.4 U	0.53 U	0.64 U	1.8 U	0.35 U	0.039 U	7.1 U	12 U	0.21 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-
Formaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-20**	**SS-20**	**SS-21**	**SS-21**	**SS-21**	**SS-22**	**SS-22**	**SS-23**	**SS-23**
Sample ID:		**S-58502-050416-SSH-SS20A**	**S-58502-050416-SSH-SS20B**	**S-58502-050416-SSH-SS21A**	**S-58502-050416-SSH-SS21B**	**S-58502-050416-SSH-SS21C**	**S-58502-050416-SSH-SS22A**	**S-58502-050416-SSH-SS22B**	**S-58502-050416-SSH-SS23A**	**S-58502-050416-SSH-SS23B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(0-21) in BTS**	**(21-33) in BTS**	**(2-12) in BTS**	**(12-30) in BTS**	**(30-39) in BTS**	**(0-6) in BTS**	**(6-58) in BTS**	**(0-30) in BTS**	**(30-42) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE**	**CL**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-20**	**SS-20**	**SS-21**	**SS-21**	**SS-21**	**SS-22**	**SS-22**	**SS-23**	**SS-23**
Sample ID:		**S-58502-050416-SSH-SS20A**	**S-58502-050416-SSH-SS20B**	**S-58502-050416-SSH-SS21A**	**S-58502-050416-SSH-SS21B**	**S-58502-050416-SSH-SS21C**	**S-58502-050416-SSH-SS22A**	**S-58502-050416-SSH-SS22B**	**S-58502-050416-SSH-SS23A**	**S-58502-050416-SSH-SS23B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(0-21) in BTS**	**(21-33) in BTS**	**(2-12) in BTS**	**(12-30) in BTS**	**(30-39) in BTS**	**(0-6) in BTS**	**(6-58) in BTS**	**(0-30) in BTS**	**(30-42) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE**	**CL**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	14000	16000	-	-	-	-	-	22000	9500
Antimony	mg/kg	8.6 F1	1.3	-	-	-	-	-	0.63 U	2.5
Arsenic	mg/kg	20	9.8	-	-	-	-	-	4.4	8.0
Barium	mg/kg	120	93	-	-	-	-	-	170	64
Beryllium	mg/kg	1.6	0.97	-	-	-	-	-	2.7	0.52
Cadmium	mg/kg	11	1.1	-	-	-	-	-	13	0.37
Calcium	mg/kg	45000 F1	44000	-	-	-	-	-	51000	38000
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	130 F1	65	-	-	-	-	-	180	20
Cobalt	mg/kg	6.0	4.9	-	-	-	-	-	8.1	6.1
Copper	mg/kg	190 F1	46	-	-	-	-	-	210	13
Iron	mg/kg	61000	31000	-	-	-	-	-	90000	17000
Lead	mg/kg	1400	200	-	-	-	-	-	1400	29
Magnesium	mg/kg	8400	11000	-	-	-	-	-	14000	14000
Manganese	mg/kg	4900	2600	-	-	-	-	-	8500	530
Mercury	mg/kg	0.14 UF1	0.057 U	-	-	-	-	-	0.15 U	0.052 U
Nickel	mg/kg	42	23	-	-	-	-	-	60	18
Potassium	mg/kg	1300	1600	-	-	-	-	-	1800	1200
Selenium	mg/kg	8.8	4.3	-	-	-	-	-	1.9	3.4
Silver	mg/kg	3.4	0.77	-	-	-	-	-	0.35	1.3
Sodium	mg/kg	1100 B	500 B	-	-	-	-	-	1200 B	210 B
Thallium	mg/kg	1.6	0.40	-	-	-	-	-	0.31 U	0.51
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	21	17	-	-	-	-	-	29	18

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-20**	**SS-20**	**SS-21**	**SS-21**	**SS-21**	**SS-22**	**SS-22**	**SS-23**	**SS-23**
Sample ID:		**S-58502-050416-SSH-SS20A**	**S-58502-050416-SSH-SS20B**	**S-58502-050416-SSH-SS21A**	**S-58502-050416-SSH-SS21B**	**S-58502-050416-SSH-SS21C**	**S-58502-050416-SSH-SS22A**	**S-58502-050416-SSH-SS22B**	**S-58502-050416-SSH-SS23A**	**S-58502-050416-SSH-SS23B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**	**5/4/2016**
Sample Depth:		**(0-21) in BTS**	**(21-33) in BTS**	**(2-12) in BTS**	**(12-30) in BTS**	**(30-39) in BTS**	**(0-6) in BTS**	**(6-58) in BTS**	**(0-30) in BTS**	**(30-42) in BTS**
matrix_code		**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE**	**CL**
Parameters	**Units**									
Zinc	mg/kg	31000 F2	920	-	-	-	-	-	39000	460
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.67 U	0.9 U	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.047 U
Aroclor-1221 (PCB-1221)	mg/kg	0.67 U	0.9 U	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.047 U
Aroclor-1232 (PCB-1232)	mg/kg	0.67 U	0.9 U	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.047 U
Aroclor-1242 (PCB-1242)	mg/kg	0.67 U	4.4	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.067
Aroclor-1248 (PCB-1248)	mg/kg	1.3	0.9 U	3.2	1.4	0.14	2.5	1.6	1.6	0.047 U
Aroclor-1254 (PCB-1254)	mg/kg	0.67 U	0.9 U	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.047 U
Aroclor-1260 (PCB-1260)	mg/kg	0.67 U	0.9 U	2.2 U	0.54 U	0.04 U	0.78 U	0.66 U	0.66 U	0.047 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	600	150	-	-	-	-	-	560	96
Cyanide (total)	mg/kg	18 F2	0.70 U	-	-	-	-	-	32	0.72 U
Formaldehyde	mg/kg	140	6.7	-	-	-	-	-	120	6.7
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	48000	18000
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-24**	**SS-24**	**SS-25**	**SS-26**	**SS-27**	**SS-27**	**SS-27**	**SS-28**	**SS-28**
Sample ID:		**S-58502-050416-SSH-SS24A**	**S-58502-050416-SSH-SS24B**	**S-58502-050516-SSH-SS25A**	**S-58502-050516-SSH-SS26A**	**S-58502-050516-SSH-SS27A**	**S-58502-050516-SSH-SS27B**	**S-58502-050516-SSH-SS27C**	**S-58502-050516-SSH-SS28A**	**S-58502-050516-SSH-SS28B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(0-32) in BTS**	**(32-34) in BTS**	**(0-26) in BTS**	**(0-28) in BTS**	**(14-37) in BTS**	**(37-53) in BTS**	**(53-59) in BTS**	**(10-54) in BTS**	**(10-54) in BTS**
matrix_code		**SE**	**CL**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-24**	**SS-24**	**SS-25**	**SS-26**	**SS-27**	**SS-27**	**SS-27**	**SS-28**	**SS-28**
Sample ID:		**S-58502-050416-SSH-SS24A**	**S-58502-050416-SSH-SS24B**	**S-58502-050516-SSH-SS25A**	**S-58502-050516-SSH-SS26A**	**S-58502-050516-SSH-SS27A**	**S-58502-050516-SSH-SS27B**	**S-58502-050516-SSH-SS27C**	**S-58502-050516-SSH-SS28A**	**S-58502-050516-SSH-SS28B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(0-32) in BTS**	**(32-34) in BTS**	**(0-26) in BTS**	**(0-28) in BTS**	**(14-37) in BTS**	**(37-53) in BTS**	**(53-59) in BTS**	**(10-54) in BTS**	**(10-54) in BTS**
matrix_code		**SE**	**CL**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	12000	5000	10000	19000	13000	18000	7900	15000	15000
Antimony	mg/kg	0.47	4.6	7.9	9.9	7.2	3.2	0.22	4.7	4.6
Arsenic	mg/kg	11	9.2	19	28	18	16	3.2	17	17
Barium	mg/kg	87	42	84	230	110	140	39	110	110
Beryllium	mg/kg	0.99	0.27	0.97	1.8	1.3	2.0	0.36	1.6	1.5
Cadmium	mg/kg	9.8	0.21	11	12	11	6.6	0.28	8.1	8.8
Calcium	mg/kg	46000	30000	32000	120000	43000	38000	67000	30000	54000
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	110	8.7	94	180	120	140	18	120	140
Cobalt	mg/kg	5.2	3.6	6.1	9.4	6.9	6.5	5.5	6.4	7.1
Copper	mg/kg	190	5.9	150 B	230 B	160 B	120 B	17 B	140 B	160 B
Iron	mg/kg	45000	7600	39000	69000	56000	68000	13000	55000	69000
Lead	mg/kg	1100	5.5	930	1400	1100	710	31	850	1200
Magnesium	mg/kg	7400	4900	5900	12000	8100	11000	22000	7800	8100
Manganese	mg/kg	3800	140	2600	6700	4800	6500	410	4500	5200
Mercury	mg/kg	0.11 U	0.054 U	0.10 U	0.18 U	0.13 U	0.17	0.051 U	0.12 U	0.14 U
Nickel	mg/kg	36	8.8	34	55	41	44	16	41	46
Potassium	mg/kg	1300	820	1200	1900	1400	1700	1700	1200	1200
Selenium	mg/kg	6.6	3.7	8.7	11	7.0	7.6	2.5	8.1	6.9
Silver	mg/kg	0.25	1.2	2.6	3.2	3.0	2.3	0.11	3.0	2.6
Sodium	mg/kg	960 B	190 B	870	1300	860	740	160	870	810
Thallium	mg/kg	0.32	0.92	2.4	2.7	1.5	0.66	0.19	1.2	0.81
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	24	12	22	35	22	20	19	21	20

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-24**	**SS-24**	**SS-25**	**SS-26**	**SS-27**	**SS-27**	**SS-27**	**SS-28**	**SS-28**
Sample ID:		**S-58502-050416-SSH-SS24A**	**S-58502-050416-SSH-SS24B**	**S-58502-050516-SSH-SS25A**	**S-58502-050516-SSH-SS26A**	**S-58502-050516-SSH-SS27A**	**S-58502-050516-SSH-SS27B**	**S-58502-050516-SSH-SS27C**	**S-58502-050516-SSH-SS28A**	**S-58502-050516-SSH-SS28B**
Sample Date:		**5/4/2016**	**5/4/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(0-32) in BTS**	**(32-34) in BTS**	**(0-26) in BTS**	**(0-28) in BTS**	**(14-37) in BTS**	**(37-53) in BTS**	**(53-59) in BTS**	**(10-54) in BTS**	**(10-54) in BTS**
matrix_code		**SE**	**CL**	**SE**	**SE**	**SE**	**SE**	**CL**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
Zinc	mg/kg	24000	92	19000	38000	26000	20000	110	27000	31000
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.5 U	0.041 U	0.096 U	0.14 U	0.11 U	0.9 U	0.039 UF2	0.1 U	0.1 U
Aroclor-1221 (PCB-1221)	mg/kg	0.5 U	0.041 U	0.096 U	0.14 U	0.11 U	0.9 U	0.039 U	0.1 U	0.1 U
Aroclor-1232 (PCB-1232)	mg/kg	0.5 U	0.041 U	0.096 U	0.14 U	0.11 U	0.9 U	0.039 U	0.1 U	0.1 U
Aroclor-1242 (PCB-1242)	mg/kg	0.5 U	0.041 U	0.37	0.54	0.11 U	3.7	0.075	0.38	0.38
Aroclor-1248 (PCB-1248)	mg/kg	1	0.041 U	0.096 U	0.14 U	1.6	0.9 U	0.039 U	0.1 U	0.1 U
Aroclor-1254 (PCB-1254)	mg/kg	0.5 U	0.041 U	0.11	0.14 U	0.11 U	0.9 U	0.039 U	0.18	0.21
Aroclor-1260 (PCB-1260)	mg/kg	0.5 U	0.041 U	0.096 U	0.14 U	0.11 U	0.9 U	0.039 UF2	0.1 U	0.1 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	330	82	700	1000	860	660	190	640	700
Cyanide (total)	mg/kg	13	0.58 U	42	55	26	4.5	1.2 U	30	3.2 U
Formaldehyde	mg/kg	130	2.5 U	53 F1	78	66	70	3.1	84	42
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	38000	-	41000	34000	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-28**	**SS-29**	**SS-29**	**SS-30**	**SS-31**	**SS-31**	**SS-32**	**SS-32**	**SS-32**
Sample ID:		**S-58502-050516-SSH-SS28C**	**S-58502-050516-SSH-SS29A**	**S-58502-050516-SSH-SS29B**	**S-58502-050516-SSH-SS30A**	**S-58502-050516-SSH-SS31A**	**S-58502-050516-SSH-SS31B**	**S-58502-050516-SSH-SS32A**	**S-58502-050516-SSH-SS32B**	**S-58502-050516-SSH-SS32C**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(54-56) in BTS**	**(0-32) in BTS**	**(32-34) in BTS**	**(0-24) in BTS**	**(0-40) in BTS**	**(40-42) in BTS**	**(0-16) in BTS**	**(16-40) in BTS**	**(16-40) in BTS**
matrix_code		**CL**	**SE**	**CL**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-28**	**SS-29**	**SS-29**	**SS-30**	**SS-31**	**SS-31**	**SS-32**	**SS-32**	**SS-32**
Sample ID:		**S-58502-050516-SSH-SS28C**	**S-58502-050516-SSH-SS29A**	**S-58502-050516-SSH-SS29B**	**S-58502-050516-SSH-SS30A**	**S-58502-050516-SSH-SS31A**	**S-58502-050516-SSH-SS31B**	**S-58502-050516-SSH-SS32A**	**S-58502-050516-SSH-SS32B**	**S-58502-050516-SSH-SS32C**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(54-56) in BTS**	**(0-32) in BTS**	**(32-34) in BTS**	**(0-24) in BTS**	**(0-40) in BTS**	**(40-42) in BTS**	**(0-16) in BTS**	**(16-40) in BTS**	**(16-40) in BTS**
matrix_code		**CL**	**SE**	**CL**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	7600	17000	-	12000	-	-	-	-	-
Antimony	mg/kg	0.17 U	3.5	-	10	-	-	-	-	-
Arsenic	mg/kg	3.1	16	-	18	-	-	-	-	-
Barium	mg/kg	41	110	-	130	-	-	-	-	-
Beryllium	mg/kg	0.38	1.9	-	1.2	-	-	-	-	-
Cadmium	mg/kg	0.20	6.2	-	12	-	-	-	-	-
Calcium	mg/kg	69000	23000	-	46000	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	17	130	-	85	-	-	-	-	-
Cobalt	mg/kg	6.3	6.3	-	6.5	-	-	-	-	-
Copper	mg/kg	14 B	120 B	-	160 B	-	-	-	-	-
Iron	mg/kg	13000	65000	-	29000	-	-	-	-	-
Lead	mg/kg	21	740	-	840	-	-	-	-	-
Magnesium	mg/kg	24000	8300	-	7600	-	-	-	-	-
Manganese	mg/kg	380	4000	-	3400	-	-	-	-	-
Mercury	mg/kg	0.050 U	0.12	-	0.15 U	-	-	-	-	-
Nickel	mg/kg	18	43	-	31	-	-	-	-	-
Potassium	mg/kg	1600	1300	-	1500	-	-	-	-	-
Selenium	mg/kg	2.5	7.8	-	8.4	-	-	-	-	-
Silver	mg/kg	0.083 U	3.2	-	2.8	-	-	-	-	-
Sodium	mg/kg	180	740	-	1100	-	-	-	-	-
Thallium	mg/kg	0.14	0.54	-	2.8	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	19	18	-	28	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-28**	**SS-29**	**SS-29**	**SS-30**	**SS-31**	**SS-31**	**SS-32**	**SS-32**	**SS-32**
Sample ID:		**S-58502-050516-SSH-SS28C**	**S-58502-050516-SSH-SS29A**	**S-58502-050516-SSH-SS29B**	**S-58502-050516-SSH-SS30A**	**S-58502-050516-SSH-SS31A**	**S-58502-050516-SSH-SS31B**	**S-58502-050516-SSH-SS32A**	**S-58502-050516-SSH-SS32B**	**S-58502-050516-SSH-SS32C**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/5/2016**
Sample Depth:		**(54-56) in BTS**	**(0-32) in BTS**	**(32-34) in BTS**	**(0-24) in BTS**	**(0-40) in BTS**	**(40-42) in BTS**	**(0-16) in BTS**	**(16-40) in BTS**	**(16-40) in BTS**
matrix_code		**CL**	**SE**	**CL**	**SE**	**SE**	**CL**	**SE**	**SE**	**SE (Duplicate)**
Parameters	**Units**									
Zinc	mg/kg	160	32000	-	12000	-	-	-	-	-
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.041 U	0.092 U	0.039 U	0.12 U	0.11 U	0.04 U	0.18 U	0.094 U	0.1 U
Aroclor-1221 (PCB-1221)	mg/kg	0.041 U	0.092 U	0.039 U	0.12 U	0.11 U	0.04 U	0.18 U	0.094 U	0.1 U
Aroclor-1232 (PCB-1232)	mg/kg	0.041 U	0.092 U	0.039 U	0.12 U	0.11 U	0.04 U	0.18 U	0.094 U	0.1 U
Aroclor-1242 (PCB-1242)	mg/kg	0.13	0.19	0.039 U	0.33	0.22	0.04 U	0.65	0.24	0.1 U
Aroclor-1248 (PCB-1248)	mg/kg	0.041 U	0.092 U	0.039 U	0.12 U	0.11 U	0.04 U	0.18 U	0.094 U	0.36
Aroclor-1254 (PCB-1254)	mg/kg	0.041 U	0.12	0.039 U	0.14	0.18	0.04 U	0.24	0.13	0.1 U
Aroclor-1260 (PCB-1260)	mg/kg	0.041 U	0.092 U	0.039 U	0.12 U	0.11 U	0.04 U	0.18 U	0.094 U	0.1 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	200	370	-	1000	-	-	-	-	-
Cyanide (total)	mg/kg	0.63 U	16	-	26	-	-	-	-	-
Formaldehyde	mg/kg	3.3	72	-	170	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-32**	**SS-33**	**SS-33**	**SS-34**	**SS-34**	**SS-35**	**SS-35**	**SS-36**	**SS-36**
Sample ID:		**S-58502-050516-SSH-SS32D**	**S-58502-050516-SSH-SS33A**	**S-58502-050516-SSH-SS33B**	**S-58502-050616-SSH-SS34A**	**S-58502-050616-SSH-SS34B**	**S-58502-050616-SSH-SS35A**	**S-58502-050616-SSH-SS35B**	**S-58502-050616-SSH-SS36A**	**S-58502-050616-SSH-SS36B**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**
Sample Depth:		**(40-42) in BTS**	**(0-10) in BTS**	**(10-36) in BTS**	**(12-40) in BTS**	**(40-42) in BTS**	**(14-42) in BTS**	**(42-44) in BTS**	**(3-52) in BTS**	**(52-54) in BTS**
matrix_code		**CL**	**SE**	**SE**	**SE**	**CL**	**SE**	**CL**	**SE**	**CL**
Parameters	**Units**									
VOAs										
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-
SVOAs										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-32**	**SS-33**	**SS-33**	**SS-34**	**SS-34**	**SS-35**	**SS-35**	**SS-36**	**SS-36**
Sample ID:		**S-58502-050516-SSH-SS32D**	**S-58502-050516-SSH-SS33A**	**S-58502-050516-SSH-SS33B**	**S-58502-050616-SSH-SS34A**	**S-58502-050616-SSH-SS34B**	**S-58502-050616-SSH-SS35A**	**S-58502-050616-SSH-SS35B**	**S-58502-050616-SSH-SS36A**	**S-58502-050616-SSH-SS36B**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**
Sample Depth:		**(40-42) in BTS**	**(0-10) in BTS**	**(10-36) in BTS**	**(12-40) in BTS**	**(40-42) in BTS**	**(14-42) in BTS**	**(42-44) in BTS**	**(3-52) in BTS**	**(52-54) in BTS**
matrix_code		**CL**	**SE**	**SE**	**SE**	**CL**	**SE**	**CL**	**SE**	**CL**
Parameters	**Units**									
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-
Metals										
Aluminum	mg/kg	-	-	-	17000	-	19000	-	20000	-
Antimony	mg/kg	-	-	-	5.6	-	3.7	-	3.6 F1	-
Arsenic	mg/kg	-	-	-	20	-	19	-	19	-
Barium	mg/kg	-	-	-	130	-	130	-	130	-
Beryllium	mg/kg	-	-	-	1.8	-	2.1	-	1.9	-
Cadmium	mg/kg	-	-	-	9.8	-	7.1	-	8.6	-
Calcium	mg/kg	-	-	-	43000	-	30000	-	31000 F1	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	150	-	150	-	170	-
Cobalt	mg/kg	-	-	-	7.8	-	7.3	-	7.8	-
Copper	mg/kg	-	-	-	160 B	-	120 B	-	140	-
Iron	mg/kg	-	-	-	74000	-	74000	-	84000	-
Lead	mg/kg	-	-	-	1200	-	740	-	780	-
Magnesium	mg/kg	-	-	-	10000	-	10000	-	11000	-
Manganese	mg/kg	-	-	-	5800	-	5500	-	6000	-
Mercury	mg/kg	-	-	-	0.14	-	0.11 U	-	0.16	-
Nickel	mg/kg	-	-	-	50	-	50	-	55	-
Potassium	mg/kg	-	-	-	1500	-	1600	-	1700	-
Selenium	mg/kg	-	-	-	7.9	-	8.3	-	8.5	-
Silver	mg/kg	-	-	-	3.0	-	3.6	-	3.3	-
Sodium	mg/kg	-	-	-	960	-	770	-	850	-
Thallium	mg/kg	-	-	-	1.2	-	0.59	-	0.70	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	23	-	21	-	21	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-32**	**SS-33**	**SS-33**	**SS-34**	**SS-34**	**SS-35**	**SS-35**	**SS-36**	**SS-36**
Sample ID:		**S-58502-050516-SSH-SS32D**	**S-58502-050516-SSH-SS33A**	**S-58502-050516-SSH-SS33B**	**S-58502-050616-SSH-SS34A**	**S-58502-050616-SSH-SS34B**	**S-58502-050616-SSH-SS35A**	**S-58502-050616-SSH-SS35B**	**S-58502-050616-SSH-SS36A**	**S-58502-050616-SSH-SS36B**
Sample Date:		**5/5/2016**	**5/5/2016**	**5/5/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**
Sample Depth:		**(40-42) in BTS**	**(0-10) in BTS**	**(10-36) in BTS**	**(12-40) in BTS**	**(40-42) in BTS**	**(14-42) in BTS**	**(42-44) in BTS**	**(3-52) in BTS**	**(52-54) in BTS**
matrix_code		**CL**	**SE**	**SE**	**SE**	**CL**	**SE**	**CL**	**SE**	**CL**
Parameters	**Units**									
Zinc	mg/kg	-	-	-	33000	-	36000	-	26000	-
MetalsSEM										
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	0.045 U	0.2 U	0.099 U	0.12 U	0.04 U	0.095 U	0.046 U	0.092 U	0.045 U
Aroclor-1221 (PCB-1221)	mg/kg	0.045 U	0.2 U	0.099 U	0.12 U	0.04 U	0.095 U	0.046 U	0.092 U	0.045 U
Aroclor-1232 (PCB-1232)	mg/kg	0.045 U	0.2 U	0.099 U	0.12 U	0.04 U	0.095 U	0.046 U	0.092 U	0.045 U
Aroclor-1242 (PCB-1242)	mg/kg	0.049	0.2 U	0.099 U	0.16	0.04 U	0.32	0.07	0.32	0.049
Aroclor-1248 (PCB-1248)	mg/kg	0.045 U	0.86	0.52	0.12 U	0.04 U	0.095 U	0.046 U	0.092 U	0.045 U
Aroclor-1254 (PCB-1254)	mg/kg	0.045 U	0.2 U	0.099 U	0.12 U	0.04 U	0.14	0.046 U	0.17	0.045 U
Aroclor-1260 (PCB-1260)	mg/kg	0.045 U	0.2 U	0.099 U	0.12 U	0.04 U	0.095 U	0.046 U	0.092 U	0.045 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
Wet										
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	530	-	540	-	460	-
Cyanide (total)	mg/kg	-	-	-	28	-	28	-	5.4 F2	-
Formaldehyde	mg/kg	-	-	-	53	-	51	-	44 F1	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	36000	-
Total solids	%	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-37**	**SS-37**	**SS-37**	**SS-38**	**SS-38**	**SS-38**	**SS-39**	**SS-40**	**SS-41**	**SS-42**
Sample ID:		**S-58502-050616-SSH-SS37A**	**S-58502-050616-SSH-SS37B**	**S-58502-050616-SSH-SS37C**	**S-58502-050616-SSH-SS38A**	**S-58502-050616-SSH-SS38B**	**S-58502-050616-SSH-SS38C**	**S-58502-050616-SSH-SS39**	**S-58502-081516-SSH-SE8**	**S-58502-081516-SSH-SE9**	**S-58502-081516-SSH-SE10**
Sample Date:		**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**8/15/2016**	**8/15/2016**	**8/15/2016**
Sample Depth:		**(8-24) in BTS**	**(24-45) in BTS**	**(45-47) in BTS**	**(10-56) in BTS**	**(10-56) in BTS**	**(56-58) in BTS**	**(3-33) in BTS**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**CL**	**SE**	**SE (Duplicate)**	**CL**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-37**	**SS-37**	**SS-37**	**SS-38**	**SS-38**	**SS-38**	**SS-39**	**SS-40**	**SS-41**	**SS-42**
Sample ID:		**S-58502-050616-SSH-SS37A**	**S-58502-050616-SSH-SS37B**	**S-58502-050616-SSH-SS37C**	**S-58502-050616-SSH-SS38A**	**S-58502-050616-SSH-SS38B**	**S-58502-050616-SSH-SS38C**	**S-58502-050616-SSH-SS39**	**S-58502-081516-SSH-SE8**	**S-58502-081516-SSH-SE9**	**S-58502-081516-SSH-SE10**
Sample Date:		**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**5/6/2016**	**8/15/2016**	**8/15/2016**	**8/15/2016**
Sample Depth:		**(8-24) in BTS**	**(24-45) in BTS**	**(45-47) in BTS**	**(10-56) in BTS**	**(10-56) in BTS**	**(56-58) in BTS**	**(3-33) in BTS**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**CL**	**SE**	**SE (Duplicate)**	**CL**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**										
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Metals											
Aluminum	mg/kg	-	13000	-	21000	18000	-	19000	-	-	-
Antimony	mg/kg	-	3.4	-	3.6	4.3	-	4.6	-	-	-
Arsenic	mg/kg	-	13	-	17	19	-	16	-	-	-
Barium	mg/kg	-	110	-	130	150	-	130	-	-	-
Beryllium	mg/kg	-	1.2	-	1.9	1.8	-	1.5	-	-	-
Cadmium	mg/kg	-	4.9	-	12	8.1	-	8.3	-	-	-
Calcium	mg/kg	-	47000	-	31000	56000	-	41000	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	120	-	160	180	-	160	-	-	-
Cobalt	mg/kg	-	6.2	-	7.2	8.8	-	7.9	-	-	-
Copper	mg/kg	-	120	-	130	170	-	150	-	-	-
Iron	mg/kg	-	61000	-	77000	86000	-	76000	-	-	-
Lead	mg/kg	-	800	-	730	1300	-	980	-	-	-
Magnesium	mg/kg	-	9000	-	11000	9900	-	10000	-	-	-
Manganese	mg/kg	-	4500	-	7000	6000	-	5400	-	-	-
Mercury	mg/kg	-	0.081 U	-	0.14 U	0.11 U	-	0.098 U	-	-	-
Nickel	mg/kg	-	43	-	53	60	-	55	-	-	-
Potassium	mg/kg	-	1200	-	2000	1600	-	1500	-	-	-
Selenium	mg/kg	-	5.2	-	7.5	7.7	-	7.1	-	-	-
Silver	mg/kg	-	1.8	-	2.6	2.7	-	2.6	-	-	-
Sodium	mg/kg	-	760	-	970	880	-	1000	-	-	-
Thallium	mg/kg	-	0.57	-	0.89	0.66	-	1.0	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	15	-	20	21	-	22	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-37	SS-37	SS-37	SS-38	SS-38	SS-38	SS-39	SS-40	SS-41	SS-42
Sample ID:		S-58502-050616-SSH-SS37A	S-58502-050616-SSH-SS37B	S-58502-050616-SSH-SS37C	S-58502-050616-SSH-SS38A	S-58502-050616-SSH-SS38B	S-58502-050616-SSH-SS38C	S-58502-050616-SSH-SS39	S-58502-081516-SSH-SE8	S-58502-081516-SSH-SE9	S-58502-081516-SSH-SE10
Sample Date:		5/6/2016	5/6/2016	5/6/2016	5/6/2016	5/6/2016	5/6/2016	5/6/2016	8/15/2016	8/15/2016	8/15/2016
Sample Depth:		(8-24) in BTS	(24-45) in BTS	(45-47) in BTS	(10-56) in BTS	(10-56) in BTS	(56-58) in BTS	(3-33) in BTS	-	-	-
matrix_code		SE	SE	CL	SE	SE (Duplicate)	CL	SE	SE	SE	SE
Parameters	**Units**										
Zinc	mg/kg	-	21000	-	25000	37000	-	27000	-	-	-
MetalsSEM											
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1221 (PCB-1221)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1232 (PCB-1232)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1242 (PCB-1242)	mg/kg	1.2 U	0.22	0.04 U	1 U	0.32	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1248 (PCB-1248)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	3.6	1.9	1.3
Aroclor-1254 (PCB-1254)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1260 (PCB-1260)	mg/kg	1.2 U	0.075 U	0.04 U	1 U	0.1 U	0.039 U	0.91 U	0.3 U	0.2 U	0.17 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
Wet											
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	390	-	260	420	-	510	-	-	-
Cyanide (total)	mg/kg	-	9.4	-	4.9	2.9 U	-	17	-	-	-
Formaldehyde	mg/kg	-	46	-	90	73	-	41	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	26000	-	-	-	-	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-43**	**SS-44**	**SS-45**	**SS-46**	**SS-47**	**SS-48**	**SS-49**	**SS-50**	**SS-51**	**SS-52**
Sample ID:		**S-58502-081516-SSH-SE11**	**S-58502-081616-SSH-SE13**	**S-58502-081616-SSH-SE14**	**S-58502-081616-SSH-SE15**	**S-58502-081616-SSH-SE17**	**S-58502-081616-SSH-SE18**	**S-58502-081616-SSH-SE19**	**S-58502-081516-SSH-SE20**	**S-58502-081616-SSH-SE21**	**S-58502-081616-SSH-SE22**
Sample Date:		**8/15/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/15/2016**	**8/16/2016**	**8/16/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-43**	**SS-44**	**SS-45**	**SS-46**	**SS-47**	**SS-48**	**SS-49**	**SS-50**	**SS-51**	**SS-52**
Sample ID:		**S-58502-081516-SSH-SE11**	**S-58502-081616-SSH-SE13**	**S-58502-081616-SSH-SE14**	**S-58502-081616-SSH-SE15**	**S-58502-081616-SSH-SE17**	**S-58502-081616-SSH-SE18**	**S-58502-081616-SSH-SE19**	**S-58502-081516-SSH-SE20**	**S-58502-081616-SSH-SE21**	**S-58502-081616-SSH-SE22**
Sample Date:		**8/15/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/15/2016**	**8/16/2016**	**8/16/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**										
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Metals											
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-43	SS-44	SS-45	SS-46	SS-47	SS-48	SS-49	SS-50	SS-51	SS-52
Sample ID:		S-58502-081516-SSH-SE11	S-58502-081616-SSH-SE13	S-58502-081616-SSH-SE14	S-58502-081616-SSH-SE15	S-58502-081616-SSH-SE17	S-58502-081616-SSH-SE18	S-58502-081616-SSH-SE19	S-58502-081516-SSH-SE20	S-58502-081616-SSH-SE21	S-58502-081616-SSH-SE22
Sample Date:		8/15/2016	8/16/2016	8/16/2016	8/16/2016	8/16/2016	8/16/2016	8/16/2016	8/15/2016	8/16/2016	8/16/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Parameters	**Units**										
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
MetalsSEM											
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	7.3 U	0.21 U	0.19 U
Aroclor-1221 (PCB-1221)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	7.3 U	0.21 U	0.19 U
Aroclor-1232 (PCB-1232)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	7.3 U	0.21 U	0.19 U
Aroclor-1242 (PCB-1242)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	63	0.21 U	0.19 U
Aroclor-1248 (PCB-1248)	mg/kg	1.9	1.7 P	1.6 P	1.3	4.2 P	3.4	1.1	7.3 U	1.3	1.4 P
Aroclor-1254 (PCB-1254)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	9.1	0.21 U	0.19 U
Aroclor-1260 (PCB-1260)	mg/kg	0.21 U	0.15 U	0.19 U	0.12 U	0.16 U	0.81 U	0.2 U	7.3 U	0.21 U	0.19 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
Wet											
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
Formaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-53	SS-54	SS-55	SS-56	SS-57	SS-58	SS-59	SS-60	SS-61	SS-62
Sample ID:		S-58502-081516-SSH-SE23	S-58502-081516-SSH-SE24	S-58502-081616-SSH-SE25	S-58502-081516-SSH-SE26	S-58502-081616-SSH-SE27	S-58502-081516-SSH-SE28	S-58502-081516-SSH-SE29	S-58502-081516-SSH-SE30	S-58502-081516-SSH-SE31	S-58502-081516-SSH-SE32
Sample Date:		8/15/2016	8/15/2016	8/16/2016	8/15/2016	8/16/2016	8/15/2016	8/15/2016	8/15/2016	8/15/2016	8/15/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-53**	**SS-54**	**SS-55**	**SS-56**	**SS-57**	**SS-58**	**SS-59**	**SS-60**	**SS-61**	**SS-62**
Sample ID:		**S-58502-081516-SSH-SE23**	**S-58502-081516-SSH-SE24**	**S-58502-081616-SSH-SE25**	**S-58502-081516-SSH-SE26**	**S-58502-081616-SSH-SE27**	**S-58502-081516-SSH-SE28**	**S-58502-081516-SSH-SE29**	**S-58502-081516-SSH-SE30**	**S-58502-081516-SSH-SE31**	**S-58502-081516-SSH-SE32**
Sample Date:		**8/15/2016**	**8/15/2016**	**8/16/2016**	**8/15/2016**	**8/16/2016**	**8/15/2016**	**8/15/2016**	**8/15/2016**	**8/15/2016**	**8/15/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**										
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-
Metals											
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SS-53	SS-54	SS-55	SS-56	SS-57	SS-58	SS-59	SS-60	SS-61	SS-62
Sample ID:		S-58502-081516-SSH-SE23	S-58502-081516-SSH-SE24	S-58502-081616-SSH-SE25	S-58502-081516-SSH-SE26	S-58502-081616-SSH-SE27	S-58502-081516-SSH-SE28	S-58502-081516-SSH-SE29	S-58502-081516-SSH-SE30	S-58502-081516-SSH-SE31	S-58502-081516-SSH-SE32
Sample Date:		8/15/2016	8/15/2016	8/16/2016	8/15/2016	8/16/2016	8/15/2016	8/15/2016	8/15/2016	8/15/2016	8/15/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-
matrix_code		SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Parameters	**Units**										
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
MetalsSEM											
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	0.5 U	0.77 U	0.27 U	0.23 U	0.25 U	0.17 U	0.85 U	0.16 U	0.17 U	2.6 U
Aroclor-1221 (PCB-1221)	mg/kg	0.5 U	0.77 U	0.27 U	0.23 U	0.25 U	0.17 U	0.85 U	0.16 U	0.17 U	2.6 U
Aroclor-1232 (PCB-1232)	mg/kg	0.5 U	0.77 U	0.27 U	0.23 U	0.25 U	0.17 U	0.85 U	0.16 U	0.17 U	2.6 U
Aroclor-1242 (PCB-1242)	mg/kg	1.6	3.3	0.27 U	0.23 U	0.25 U	0.17 U	2.7	0.88	1.6	31
Aroclor-1248 (PCB-1248)	mg/kg	0.5 U	0.77 U	1.5 P	2.4 P	0.95	1.7 P	0.85 U	0.16 U	0.17 U	2.6 U
Aroclor-1254 (PCB-1254)	mg/kg	0.5 U	0.87	0.27 U	0.23 U	0.25 U	0.17 U	0.58 J	0.41	0.51 p	4
Aroclor-1260 (PCB-1260)	mg/kg	0.5 U	0.77 U	0.27 U	0.23 U	0.25 U	0.17 U	0.85 U	0.16 U	0.17 U	2.6 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
Wet											
Ammonia	mg/kg	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-
Formaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-	-	-	-	-	-
Total solids	%	-	-	-	-	-	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-63**	**SS-64**	**SS-65**	**SS-66**	**SS-67**
Sample ID:		**S-58502-081516-SSH-SE33**	**S-58502-081616-SSH-SE34**	**S-58502-081616-SSH-SE35**	**S-58502-081616-SSH-SE36**	**S-58502-081516-SSH-SE37**
Sample Date:		**8/15/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/15/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**					
VOAs						
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-
2-Hexanone	mg/kg	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-
Benzene	mg/kg	-	-	-	-	-
Bromodichloromethane	mg/kg	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-
Carbon disulfide	mg/kg	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-
Chloroethane	mg/kg	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-
Cyclohexane	mg/kg	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-
Ethylbenzene	mg/kg	-	-	-	-	-
Isopropyl benzene	mg/kg	-	-	-	-	-
Methyl acetate	mg/kg	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-
Styrene	mg/kg	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-
Toluene	mg/kg	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/kg	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-
Xylenes (total)	mg/kg	-	-	-	-	-
SVOAs						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-63**	**SS-64**	**SS-65**	**SS-66**	**SS-67**
Sample ID:		**S-58502-081516-SSH-SE33**	**S-58502-081616-SSH-SE34**	**S-58502-081616-SSH-SE35**	**S-58502-081616-SSH-SE36**	**S-58502-081516-SSH-SE37**
Sample Date:		**8/15/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/15/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**					
4-Chloroaniline	mg/kg	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-
Nitrobenzene	mg/kg	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-
Metals						
Aluminum	mg/kg	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-
Calcium	mg/kg	-	-	-	-	-
Cation exchange capacity	meq/100g	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-
Magnesium	mg/kg	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-
Sodium	mg/kg	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-

Attachment A.1

Secondary Pond Sediment Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SS-63**	**SS-64**	**SS-65**	**SS-66**	**SS-67**
Sample ID:		**S-58502-081516-SSH-SE33**	**S-58502-081616-SSH-SE34**	**S-58502-081616-SSH-SE35**	**S-58502-081616-SSH-SE36**	**S-58502-081516-SSH-SE37**
Sample Date:		**8/15/2016**	**8/16/2016**	**8/16/2016**	**8/16/2016**	**8/15/2016**
Sample Depth:		**-**	**-**	**-**	**-**	**-**
matrix_code		**SE**	**SE**	**SE**	**SE**	**SE**
Parameters	**Units**					
Zinc	mg/kg	-	-	-	-	-
MetalsSEM						
Cadmium	mg/kg	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-
Simultaneously extracted metals (SEM)/Acid-volatile sulfide ratio (AVS)	none	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-
PCBs						
Aroclor-1016 (PCB-1016)	mg/kg	0.18 U	0.41 U	0.36 U	0.21 U	0.077 U
Aroclor-1221 (PCB-1221)	mg/kg	0.18 U	0.41 U	0.36 U	0.21 U	0.077 U
Aroclor-1232 (PCB-1232)	mg/kg	0.18 U	0.41 U	0.36 U	0.21 U	0.077 U
Aroclor-1242 (PCB-1242)	mg/kg	0.68	0.41 U	0.36 U	0.21 U	0.64
Aroclor-1248 (PCB-1248)	mg/kg	0.18 U	5.3	5 P	2.2	0.077 U
Aroclor-1254 (PCB-1254)	mg/kg	0.26	0.41 U	0.36 U	0.21 U	0.092 p
Aroclor-1260 (PCB-1260)	mg/kg	0.18 U	0.41 U	0.36 U	0.21 U	0.077 U
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-
Wet						
Ammonia	mg/kg	-	-	-	-	-
Ammonia-N	mg/kg	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-
Formaldehyde	mg/kg	-	-	-	-	-
Nitrate (as N)	mg/kg	-	-	-	-	-
Nitrite (as N)	mg/kg	-	-	-	-	-
Orthophosphate	mg/kg	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-
Sulfide	mg/kg	-	-	-	-	-
Sulfide (acid volatile)	mg/kg	-	-	-	-	-
Total organic carbon (TOC)	%	-	-	-	-	-
Total organic carbon (TOC)	mg/kg	-	-	-	-	-
Total solids	%	-	-	-	-	-

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		BD-340-16	BD-345-16	BD-349-16	H1	H1	H2	H3	H3	H4	H6
Sample ID:		W-58502-032416-SSH-1637	W-58502-032416-SSH-1634	W-58502-031716-SSH-1623	W00003	W00004	W00005	W00001	W00002	W00006	W00013
Sample Date:		3/24/2016	3/24/2016	3/17/2016	11/17/1998	11/17/1998 (Duplicate)	11/17/1998	11/16/1998	11/16/1998 (Duplicate)	11/17/1998	11/18/1998
Parameters	**Units**										
VOAs											
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.01 U	0.01 U	0.01 U	-	-	-	-	-	-	-
2-Hexanone	mg/L	0.01 U	0.01 U	0.01 U	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.01 U	0.01 U	0.01 U	-	-	-	-	-	-	-
Acetone	mg/L	0.01 U	0.01 U	0.01 U	-	-	-	-	-	-	-
Benzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Bromoform	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Carbon disulfide	mg/L	0.005 U	0.005 U	0.005 U	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Chlorobenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Chloroethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Cyclohexane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Ethylbenzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Isopropyl benzene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Methyl acetate	mg/L	0.01 U	0.01 U	0.01 U	-	-	-	-	-	-	-
Methyl cyclohexane	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Methylene chloride	mg/L	0.005 U	0.005 U	0.005 U	-	-	-	-	-	-	-
Styrene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Tetrachloroethene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Toluene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Trichloroethene	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	-
Xylenes (total)	mg/L	0.002 U	0.002 U	0.002 U	-	-	-	-	-	-	-
SVOAs											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	0.0038 U	0.0042 U	0.0039 U	-	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		BD-340-16	BD-345-16	BD-349-16	H1	H1	H2	H3	H3	H4	H6
Sample ID:		W-58502-032416-SSH-1637	W-58502-032416-SSH-1634	W-58502-031716-SSH-1623	W00003	W00004	W00005	W00001	W00002	W00006	W00013
Sample Date:		3/24/2016	3/24/2016	3/17/2016	11/17/1998	11/17/1998 (Duplicate)	11/17/1998	11/16/1998	11/16/1998 (Duplicate)	11/17/1998	11/18/1998
Parameters	**Units**										
2,4-Dichlorophenol	mg/L	0.0095 U	0.01 U	0.0098 U	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2-Chlorophenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2-Methylphenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
2-Nitroaniline	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
2-Nitrophenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
3&4-Methylphenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
3-Nitroaniline	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
4-Chloroaniline	mg/L	0.0095 U	0.01 U	0.0098 U	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
4-Nitroaniline	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
4-Nitrophenol	mg/L	0.019 U	0.021 U	0.02 U	-	-	-	-	-	-	-
Acenaphthene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Acenaphthylene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Acetophenone	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Anthracene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Atrazine	mg/L	0.0029 U	0.0031 U	0.0029 U	-	-	-	-	-	-	-
Benzaldehyde	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Caprolactam	mg/L	0.0095 U	0.01 U	0.0098 U	-	-	-	-	-	-	-
Carbazole	mg/L	0.0095 U	0.01 U	0.0098 U	-	-	-	-	-	-	-
Chrysene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	0.0019 U	0.0021 U	0.002 U	-	-	-	-	-	-	-
Dibenzofuran	mg/L	0.0038 U	0.0042 U	0.0039 U	-	-	-	-	-	-	-
Diethyl phthalate	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Dimethyl phthalate	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Fluoranthene	mg/L	0.00095 U*	0.001 U*	0.00098 U	-	-	-	-	-	-	-
Fluorene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Hexachlorobenzene	mg/L	0.00019 U	0.00021 U	0.0002 U	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	0.00095 U	0.001 U	0.00098 U	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Hexachloroethane	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	0.0019 U	0.0021 U	0.002 U	-	-	-	-	-	-	-
Isophorone	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Naphthalene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Nitrobenzene	mg/L	0.0029 U	0.0031 U	0.0029 U	-	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		BD-340-16	BD-345-16	BD-349-16	H1	H1	H2	H3	H3	H4	H6
Sample ID:		W-58502-032416-SSH-1637	W-58502-032416-SSH-1634	W-58502-031716-SSH-1623	W00003	W00004	W00005	W00001	W00002	W00006	W00013
Sample Date:		3/24/2016	3/24/2016	3/17/2016	11/17/1998	11/17/1998 (Duplicate)	11/17/1998	11/16/1998	11/16/1998 (Duplicate)	11/17/1998	11/18/1998
Parameters	**Units**										
N-Nitrosodi-n-propylamine	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Pentachlorophenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Phenanthrene	mg/L	0.0019 U	0.0021 U	0.002 U	-	-	-	-	-	-	-
Phenol	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Pyrene	mg/L	0.0048 U	0.0052 U	0.0049 U	-	-	-	-	-	-	-
Metals											
Aluminum	mg/L	0.1	0.11	0.092	0.29	0.333	0.301	0.069	0.096	0.329	0.133 J
Aluminum (dissolved)	mg/L	-	-	-	0.067	0.057	0.05 U	0.05 U	0.05 U	0.052	0.05 U
Antimony	mg/L	0.002 U	0.002 U	0.002 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Antimony (dissolved)	mg/L	-	-	-	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Antimony, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/L	0.005 U	0.005 U	0.005 U	0.007	0.006	0.006	0.005 U	0.005 U	0.006	0.005 U
Arsenic (dissolved)	mg/L	-	-	-	0.008	0.007	0.006	0.005 U	0.005 U	0.006	0.005 U
Arsenic, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Barium	mg/L	0.1 U	0.1 U	0.1 U	0.021	0.021	0.021	0.026	0.025	0.022	0.035 J
Barium (dissolved)	mg/L	-	-	-	0.016	0.016	0.014	0.027	0.026	0.015	0.031
Barium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Beryllium (dissolved)	mg/L	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Beryllium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Cadmium (dissolved)	mg/L	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Cadmium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Calcium	mg/L	57	63	56	164	166	162	162	164	166	49.5
Calcium (dissolved)	mg/L	-	-	-	165	167	157	152	154	160	46.2
Calcium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Chromium	mg/L	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium (dissolved)	mg/L	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/L	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt (dissolved)	mg/L	-	-	-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Copper	mg/L	0.004 U	0.004 U	0.004 U	0.023	0.024	0.022	0.01 U	0.01 U	0.021	0.01 U
Copper (dissolved)	mg/L	-	-	-	0.015	0.016	0.01 U	0.01	0.028	0.01 U	0.01 U
Copper, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Iron	mg/L	0.2 U	0.2 U	0.2 U	0.896	0.896	0.883	0.15	0.169	0.957	0.583 J
Iron (dissolved)	mg/L	-	-	-	0.058	0.041	0.051	0.043	0.044	0.049	0.094 J
Lead	mg/L	0.003 U	0.003 U	0.003 U	0.065	0.065	0.063	0.002 U	0.002 U	0.066	0.002 U
Lead (dissolved)	mg/L	-	-	-	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Lead, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	16	17	18	-	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Manganese	mg/L	0.29	0.32	0.18	6.73	6.91	6.55	1.94	1.96	6.77	0.093
Manganese (dissolved)	mg/L	-	-	-	6.47	6.57	6.06	1.86	1.87	6.14	0.04
Manganese, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 U
Mercury (dissolved)	mg/L	-	-	-	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 U
Nickel	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nickel (dissolved)	mg/L	-	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nickel, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	12	13	13	-	-	-	-	-	-	-
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 UJ	0.006 J	0.006 J	0.005 UJ	0.005 UJ	0.005 J	0.005 UJ
Selenium (dissolved)	mg/L	-	-	-	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		BD-340-16	BD-345-16	BD-349-16	H1	H1	H2	H3	H3	H4	H6
Sample ID:		W-58502-032416-SSH-1637	W-58502-032416-SSH-1634	W-58502-031716-SSH-1623	W00003	W00004	W00005	W00001	W00002	W00006	W00013
Sample Date:		3/24/2016	3/24/2016	3/17/2016	11/17/1998	11/17/1998 (Duplicate)	11/17/1998	11/16/1998	11/16/1998 (Duplicate)	11/17/1998	11/18/1998
Parameters	**Units**										
Selenium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Silver	mg/L	0.0002 U	0.0002 U	0.0002 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Silver (dissolved)	mg/L	-	-	-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Silver, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	190	210	150	-	-	-	-	-	-	-
Thallium	mg/L	0.002 U	0.002 U	0.002 U	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 U
Thallium (dissolved)	mg/L	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Thallium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Tin	mg/L	-	-	-	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Tin (dissolved)	mg/L	-	-	-	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vanadium	mg/L	0.004 U	0.004 U	0.004 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (dissolved)	mg/L	-	-	-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
Zinc	mg/L	0.05 U	0.05 U	0.05 U	0.781	0.763	0.578	0.01 U	0.01 U	0.59	0.018 UJ
Zinc (dissolved)	mg/L	-	-	-	0.511	0.546	0.398	0.01 U	0.013	0.381	0.01 U
Zinc, total recoverable	mg/L	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.000095 U	0.000095 U	0.000096 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1262 (PCB-1262)	mg/L	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/L	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/L	-	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet											
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	0.20 U	0.20 U	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (carbonaceous)	mg/L	6.3 b	5.4 b	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-
Cyanide (amenable)	mg/L	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-
Formaldehyde	mg/L	0.050 U	0.050 U	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Phenolics (total)	mg/L	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-
fparam											
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-

Footnotes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-202-11	MD-204-11	MD-208-11	MD-210-11	MD-213-11	MD-215-11
Sample ID:		SW-58502-062711-SH-202	SW-58502-062711-SH-204	SW-58502-062711-SH-208	SW-58502-062811-SH-210	SW-58502-062811-SH-213	SW-58502-062811-SH-215
Sample Date:		6/27/2011	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	-	-	-
Acetone	mg/L	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	-	-	-
Carbon disulfide	mg/L	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-
Chlorobenzene	mg/L	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/L	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Cyclohexane	mg/L	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-
Isopropyl benzene	mg/L	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	-	-	-
Methyl cyclohexane	mg/L	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	-	-	-
Methylene chloride	mg/L	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-
Tetrachloroethene	mg/L	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Trichloroethene	mg/L	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-
Xylenes (total)	mg/L	-	-	-	-	-	-
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-202-11	MD-204-11	MD-208-11	MD-210-11	MD-213-11	MD-215-11
Sample ID:		SW-58502-062711-SH-202	SW-58502-062711-SH-204	SW-58502-062711-SH-208	SW-58502-062811-SH-210	SW-58502-062811-SH-213	SW-58502-062811-SH-215
Sample Date:		6/27/2011	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-
3&4-Methylphenol	mg/L	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-
Acetophenone	mg/L	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-
Atrazine	mg/L	-	-	-	-	-	-
Benzaldehyde	mg/L	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-
Caprolactam	mg/L	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-202-11	MD-204-11	MD-208-11	MD-210-11	MD-213-11	MD-215-11
Sample ID:		SW-58502-062711-SH-202	SW-58502-062711-SH-204	SW-58502-062711-SH-208	SW-58502-062811-SH-210	SW-58502-062811-SH-213	SW-58502-062811-SH-215
Sample Date:		6/27/2011	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-
Metals							
Aluminum	mg/L	-	-	-	-	-	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	-	-	-	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	0.00037 J	0.00034 J	0.00055 J	0.00053 J	0.00052 J	0.00053 J
Arsenic	mg/L	-	-	-	-	-	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	0.0025 J	0.0026 J	0.0024 J	0.0024 J	0.0025 J	0.0024 J
Barium	mg/L	-	-	-	-	-	-
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	0.033 J	0.032 J	0.043 J	0.043 J	0.044 J	0.044 J
Beryllium	mg/L	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	-	-	-	-	-	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	73	75	81	82	84	86
Chromium	mg/L	-	-	-	-	-	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	0.00019 J	0.00015 J	0.00018 J	0.00023 J	0.00024 J	0.00021 J
Copper	mg/L	-	-	-	-	-	-
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	0.00097 J	0.00095 J	0.00068 J	0.002 U	0.002 U	0.002 U
Iron	mg/L	-	-	-	-	-	-
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	-	-	-	-	-
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	0.003 U	0.003 U	0.00027 J	0.00028 J	0.00019 J	0.003 U
Magnesium	mg/L	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	21	22	20	20	21	21
Manganese	mg/L	-	-	-	-	-	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	0.15	0.12	0.17	0.18	0.18	0.17
Mercury	mg/L	0.00000037 J	0.0000014	0.00000014 J	0.00000024 J	0.0000003 J	0.00000022 J
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	-	-	-	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	0.0011 J	0.00093 J	0.001 J	0.0012 J	0.0013 J	0.02 U
Potassium	mg/L	-	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-202-11	MD-204-11	MD-208-11	MD-210-11	MD-213-11	MD-215-11
Sample ID:		SW-58502-062711-SH-202	SW-58502-062711-SH-204	SW-58502-062711-SH-208	SW-58502-062811-SH-210	SW-58502-062811-SH-213	SW-58502-062811-SH-215
Sample Date:		6/27/2011	6/27/2011	6/27/2011	6/28/2011	6/28/2011	6/28/2011
Parameters	**Units**						
Selenium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Zinc	mg/L	-	-	-	-	-	-
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 UJ	0.000095 UJ	0.000095 UJ
Aroclor-1262 (PCB-1262)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1268 (PCB-1268)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	0.83 J	0.83 J	3.6	3.6	3.9	4.2
Ammonia-N	mg/L	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	2.0 U	2.0 U	2.3	10	9.0	8.7
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	51	20 U	56	53	30	56
Cyanide (amenable)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Cyanide (total)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Formaldehyde	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Hardness, carbonate	mg/L	270	280	290	290	300	300
Nitrate (as N)	mg/L	0.27	0.27	0.41	0.53	0.43	0.43
Oil and grease (HEM), polar	mg/L	4.8 U	0.86 J	0.96 J	4.9 U	4.8 U	5.1 U
pH, lab	s.u.	8.18 J	8.50 J	8.55 J	8.43 J	8.40 J	8.40 J
Phenolics (total)	mg/L	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
Total organic carbon (TOC)	mg/L	15	16	14	14	14	14
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

U Not de
J Estima
UJ Not de

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-215-11	MD-223-11	MD-225-11	MD-227-11	MD-229-11	MD-231-11
Sample ID:		SW-58502-062811-SH-216	SW-58502-062911-SH-223	SW-58502-062911-SH-225	SW-58502-062911-SH-227	SW-58502-062911-SH-229	SW-58502-062911-SH-231
Sample Date:		6/28/2011 (Duplicate)	6/29/2011	6/29/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	-	-	-
Acetone	mg/L	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	-	-	-
Carbon disulfide	mg/L	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-
Chlorobenzene	mg/L	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/L	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Cyclohexane	mg/L	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-
Isopropyl benzene	mg/L	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	-	-	-
Methyl cyclohexane	mg/L	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	-	-	-
Methylene chloride	mg/L	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-
Tetrachloroethene	mg/L	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Trichloroethene	mg/L	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-
Xylenes (total)	mg/L	-	-	-	-	-	-
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-215-11	MD-223-11	MD-225-11	MD-227-11	MD-229-11	MD-231-11
Sample ID:		SW-58502-062811-SH-216	SW-58502-062911-SH-223	SW-58502-062911-SH-225	SW-58502-062911-SH-227	SW-58502-062911-SH-229	SW-58502-062911-SH-231
Sample Date:		6/28/2011 (Duplicate)	6/29/2011	6/29/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-
3&4-Methylphenol	mg/L	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-
Acetophenone	mg/L	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-
Atrazine	mg/L	-	-	-	-	-	-
Benzaldehyde	mg/L	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-
Caprolactam	mg/L	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-215-11	MD-223-11	MD-225-11	MD-227-11	MD-229-11	MD-231-11
Sample ID:		SW-58502-062811-SH-216	SW-58502-062911-SH-223	SW-58502-062911-SH-225	SW-58502-062911-SH-227	SW-58502-062911-SH-229	SW-58502-062911-SH-231
Sample Date:		6/28/2011 (Duplicate)	6/29/2011	6/29/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-
Metals							
Aluminum	mg/L	-	-	-	-	-	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	-	-	-	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	0.00048 J	0.0005 J	0.00055 J	0.00046 J	0.00051 J	0.00052 J
Arsenic	mg/L	-	-	-	-	-	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	0.0023 J	0.0023 J	0.0024 J	0.0022 J	0.0024 J	0.0025 J
Barium	mg/L	-	-	-	-	-	-
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	0.042 J	0.043 J	0.043 J	0.043 J	0.043 J	0.044 J
Beryllium	mg/L	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	-	-	-	-	-	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	86	83	84	84	84	82
Chromium	mg/L	-	-	-	-	-	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	0.00022 J	0.0002 J	0.00019 J	0.00018 J	0.00019 J	0.00019 J
Copper	mg/L	-	-	-	-	-	-
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	0.002 U	0.0006 J	0.00058 J	0.00042 J	0.00062 J	0.00056 J
Iron	mg/L	-	-	-	-	-	-
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	-	-	-	-	-
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Magnesium	mg/L	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	21	20	20	21	20	20
Manganese	mg/L	-	-	-	-	-	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	0.16	0.18	0.17	0.17	0.17	0.2
Mercury	mg/L	0.00000027 J	0.00000033 J	0.00000015 J	0.00000019 J	0.000001	0.00000023 J
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	-	-	-	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	0.0018 J	0.0012 J	0.0012 J	0.0011 J	0.0013 J	0.00095 J
Potassium	mg/L	-	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-215-11	MD-223-11	MD-225-11	MD-227-11	MD-229-11	MD-231-11
Sample ID:		SW-58502-062811-SH-216	SW-58502-062911-SH-223	SW-58502-062911-SH-225	SW-58502-062911-SH-227	SW-58502-062911-SH-229	SW-58502-062911-SH-231
Sample Date:		6/28/2011 (Duplicate)	6/29/2011	6/29/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
Selenium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	0.001 U	0.001 U	0.0004 J	0.001 U	0.001 U	0.001 U
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Zinc	mg/L	-	-	-	-	-	-
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1221 (PCB-1221)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1232 (PCB-1232)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1242 (PCB-1242)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1248 (PCB-1248)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1254 (PCB-1254)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1260 (PCB-1260)	mg/L	0.000095 UJ	0.000095 UJ	0.000095 UJ	0.000095 UJ	0.00011 UJ	0.000096 UJ
Aroclor-1262 (PCB-1262)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Aroclor-1268 (PCB-1268)	mg/L	0.000095 U	0.000095 UJ	0.000095 U	0.000095 U	0.00011 UJ	0.000096 UJ
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	4.7	4.2 J	3.6	4.7	3.9 J	3.3 J
Ammonia-N	mg/L	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	8.9	4.0 J	8.3	5.7	4.8 J	4.3 J
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	58	40 J	48	51	56 J	40 J
Cyanide (amenable)	mg/L	0.010 U	0.010 UJ	0.010 U	0.010 U	0.010 UJ	0.010 UJ
Cyanide (total)	mg/L	0.010 U	0.010 UJ	0.010 U	0.010 U	0.010 UJ	0.010 UJ
Formaldehyde	mg/L	0.050 U	0.050 UJ	0.050 U	0.050 U	0.050 UJ	0.050 UJ
Hardness, carbonate	mg/L	300	290	290	290	290	290
Nitrate (as N)	mg/L	0.45	0.38 J	0.39 J	0.38 J	0.38 J	0.39 J
Oil and grease (HEM), polar	mg/L	4.9 U	1.3 J	1.4 J	1.6 J	0.77 J	4.8 UJ
pH, lab	s.u.	8.46 J	8.22 J	8.28 J	8.32 J	8.32 J	8.24 J
Phenolics (total)	mg/L	0.014 J	0.040 UJ	0.0094 J	0.0094 J	0.040 UJ	0.0094 J
Total organic carbon (TOC)	mg/L	14	14 J	14	14	14 J	14 J
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

U Not de
J Estima
UJ Not de

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-233-11	MD-333-16	MD-339-16	MD-344-16	MD-348-16	MD-350-16
Sample ID:		SW-58502-062911-SH-233	W-58502-032416-SSH-1645	W-58502-032416-SSH-1636	W-58502-032416-SSH-1633	W-58502-031716-SSH-1622	W-58502-032416-SSH-1644
Sample Date:		6/29/2011	3/24/2016	3/24/2016	3/24/2016	3/17/2016	3/24/2016
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,1,2-Trichloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,1-Dichloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,1-Dichloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2,4-Trichlorobenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2-Dichlorobenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2-Dichloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,2-Dichloropropane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,3-Dichlorobenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
1,4-Dichlorobenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
2-Hexanone	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Acetone	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Benzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Bromodichloromethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Bromoform	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Bromomethane (Methyl bromide)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Carbon disulfide	mg/L	-	-	0.005 U	0.005 U	0.005 U	-
Carbon tetrachloride	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Chlorobenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Chloroethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Chloroform (Trichloromethane)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Chloromethane (Methyl chloride)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
cis-1,2-Dichloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
cis-1,3-Dichloropropene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Cyclohexane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Dibromochloromethane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Ethylbenzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Isopropyl benzene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Methyl acetate	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Methyl cyclohexane	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Methylene chloride	mg/L	-	-	0.005 U	0.005 U	0.005 U	-
Styrene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Tetrachloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Toluene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
trans-1,2-Dichloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
trans-1,3-Dichloropropene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Trichloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Vinyl chloride	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Xylenes (total)	mg/L	-	-	0.002 U	0.002 U	0.002 U	-
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2,4,5-Trichlorophenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2,4,6-Trichlorophenol	mg/L	-	-	0.0042 U	0.0042 U	0.004 U	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-233-11	MD-333-16	MD-339-16	MD-344-16	MD-348-16	MD-350-16
Sample ID:		SW-58502-062911-SH-233	W-58502-032416-SSH-1645	W-58502-032416-SSH-1636	W-58502-032416-SSH-1633	W-58502-031716-SSH-1622	W-58502-032416-SSH-1644
Sample Date:		6/29/2011	3/24/2016	3/24/2016	3/24/2016	3/17/2016	3/24/2016
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
2,4-Dimethylphenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2,4-Dinitrophenol	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
2,4-Dinitrotoluene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2,6-Dinitrotoluene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2-Chloronaphthalene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2-Chlorophenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2-Methylnaphthalene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2-Methylphenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
2-Nitroaniline	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
2-Nitrophenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
3&4-Methylphenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
3,3'-Dichlorobenzidine	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
3-Nitroaniline	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
4-Bromophenyl phenyl ether	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
4-Chloro-3-methylphenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
4-Chloroaniline	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
4-Chlorophenyl phenyl ether	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
4-Nitroaniline	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
4-Nitrophenol	mg/L	-	-	0.021 U	0.021 U	0.02 U	-
Acenaphthene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Acenaphthylene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Acetophenone	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Anthracene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Atrazine	mg/L	-	-	0.0031 U	0.0031 U	0.003 U	-
Benzaldehyde	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Benzo(a)anthracene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Benzo(a)pyrene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Benzo(b)fluoranthene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Benzo(g,h,i)perylene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Benzo(k)fluoranthene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
bis(2-Chloroethoxy)methane	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
bis(2-Chloroethyl)ether	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Butyl benzylphthalate (BBP)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Caprolactam	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Carbazole	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Chrysene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Dibenz(a,h)anthracene	mg/L	-	-	0.0021 U	0.0021 U	0.002 U	-
Dibenzofuran	mg/L	-	-	0.0042 U	0.0042 U	0.004 U	-
Diethyl phthalate	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Dimethyl phthalate	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Di-n-butylphthalate (DBP)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Fluoranthene	mg/L	-	-	0.001 U*	0.001 U*	0.001 U	-
Fluorene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Hexachlorobenzene	mg/L	-	-	0.00021 U	0.00021 U	0.0002 U	-
Hexachlorobutadiene	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Hexachlorocyclopentadiene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Hexachloroethane	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	0.0021 U	0.0021 U	0.002 U	-
Isophorone	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Naphthalene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Nitrobenzene	mg/L	-	-	0.0031 U	0.0031 U	0.003 U	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-233-11	MD-333-16	MD-339-16	MD-344-16	MD-348-16	MD-350-16
Sample ID:		SW-58502-062911-SH-233	W-58502-032416-SSH-1645	W-58502-032416-SSH-1636	W-58502-032416-SSH-1633	W-58502-031716-SSH-1622	W-58502-032416-SSH-1644
Sample Date:		6/29/2011	3/24/2016	3/24/2016	3/24/2016	3/17/2016	3/24/2016
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
N-Nitrosodiphenylamine	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Pentachlorophenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Phenanthrene	mg/L	-	-	0.0021 U	0.0021 U	0.002 U	-
Phenol	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Pyrene	mg/L	-	-	0.0052 U	0.0052 U	0.005 U	-
Metals							
Aluminum	mg/L	-	-	0.12	0.13	0.092	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	0.002 U	0.002 U	0.002 U	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	0.00049 J	-	-	-	-	-
Arsenic	mg/L	-	-	0.005 U	0.005 U	0.005 U	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	0.0025 J	-	-	-	-	-
Barium	mg/L	-	-	0.1 U	0.1 U	0.1 U	-
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	0.042 J	-	-	-	-	-
Beryllium	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	0.001 U	-	-	-	-	-
Cadmium	mg/L	-	-	0.001 U	0.001 U	0.001 U	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	0.001 U	-	-	-	-	-
Calcium	mg/L	-	-	62	65	54	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	85	-	-	-	-	-
Chromium	mg/L	-	-	0.01 U	0.01 U	0.01 U	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	0.005 U	-	-	-	-	-
Cobalt	mg/L	-	-	0.02 U	0.02 U	0.02 U	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	0.00019 J	-	-	-	-	-
Copper	mg/L	-	-	0.004 U	0.004 U	0.004 U	-
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	0.00057 J	-	-	-	-	-
Iron	mg/L	-	-	0.2 U	0.2 U	0.2 U	-
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	-	0.003 U	0.003 U	0.003 U	-
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	0.003 U	-	-	-	-	-
Magnesium	mg/L	-	-	17	18	18	-
Magnesium, total recoverable	mg/L	21	-	-	-	-	-
Manganese	mg/L	-	-	0.31	0.34	0.18	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	0.17	-	-	-	-	-
Mercury	mg/L	0.00000032 J	-	0.0002 U	0.0002 U	0.0002 U	-
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	0.02 U	0.02 U	0.02 U	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	0.0011 J	-	-	-	-	-
Potassium	mg/L	-	-	13	14	13	-
Selenium	mg/L	-	-	0.005 U	0.005 U	0.005 U	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MD-233-11	MD-333-16	MD-339-16	MD-344-16	MD-348-16	MD-350-16
Sample ID:		SW-58502-062911-SH-233	W-58502-032416-SSH-1645	W-58502-032416-SSH-1636	W-58502-032416-SSH-1633	W-58502-031716-SSH-1622	W-58502-032416-SSH-1644
Sample Date:		6/29/2011	3/24/2016	3/24/2016	3/24/2016	3/17/2016	3/24/2016
Parameters	**Units**						
Selenium, total recoverable	mg/L	0.005 U	-	-	-	-	-
Silver	mg/L	-	-	0.0002 U	0.0002 U	0.0002 U	-
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	0.0002 U	-	-	-	-	-
Sodium	mg/L	-	-	200	220	150	-
Thallium	mg/L	-	-	0.002 U	0.002 U	0.002 U	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	0.001 U	-	-	-	-	-
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	0.004 U	0.004 U	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	0.004 U	-	-	-	-	-
Zinc	mg/L	-	-	0.05 U	0.05 U	0.05 U	-
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	0.02 U	-	-	-	-	-
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1221 (PCB-1221)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1232 (PCB-1232)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1242 (PCB-1242)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1248 (PCB-1248)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1254 (PCB-1254)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1260 (PCB-1260)	mg/L	0.000095 UJ	-	0.000095 U	0.000095 U	0.000096 U	-
Aroclor-1262 (PCB-1262)	mg/L	0.000095 UJ	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/L	0.000095 UJ	-	-	-	-	-
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	3.6 J	-	-	-	-	-
Ammonia-N	mg/L	-	-	0.20 U	0.20 U	0.20 U	-
Biochemical oxygen demand (BOD)	mg/L	4.7 J	-	-	-	-	-
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	6.0 b	5.0 b	2.0 U	-
Chemical oxygen demand (COD)	mg/L	45 J	-	-	-	-	-
Cyanide (amenable)	mg/L	0.010 UJ	-	-	-	-	-
Cyanide (total)	mg/L	0.0060 J	-	-	-	-	-
Formaldehyde	mg/L	0.050 UJ	0.050 U	0.050 U	0.050 U	-	0.050 U
Hardness, carbonate	mg/L	300	-	-	-	-	-
Nitrate (as N)	mg/L	0.39 J	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	1.0 J	-	-	-	-	-
pH, lab	s.u.	8.45 J	-	-	-	-	-
Phenolics (total)	mg/L	0.040 UJ	-	-	-	-	-
Total organic carbon (TOC)	mg/L	14 J	-	-	-	-	-
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

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J Estima
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Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MLC-102	MLC-102	MLC-102	MLC-102	MLC-102	MLC-102
Sample ID:		W-58502-031611-SSH-WKZ1	W-58502-032311-SSH-MO.02	W-58502-033011-SSH-WKZ2	W-58502-040611-SSH-WK23	W-58502-041411-SSH-WK24	W-58502-042011-SSH-MO.03
Sample Date:		3/16/2011	3/23/2011	3/30/2011	4/6/2011	4/14/2011	4/20/2011
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	-	-	-
Acetone	mg/L	-	-	-	-	-	-
Benzene	mg/L	-	0.002 U	-	-	-	0.001 U
Bromodichloromethane	mg/L	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	-	-	-
Carbon disulfide	mg/L	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-
Chlorobenzene	mg/L	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	-	0.002 U	-	-	-	0.001 U
Chloromethane (Methyl chloride)	mg/L	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Cyclohexane	mg/L	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-
Isopropyl benzene	mg/L	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	-	-	-
Methyl cyclohexane	mg/L	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	-	-	-
Methylene chloride	mg/L	-	0.0014 J B	-	-	-	0.001 U
Styrene	mg/L	-	-	-	-	-	-
Tetrachloroethene	mg/L	-	0.002 U	-	-	-	0.001 U
Toluene	mg/L	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Trichloroethene	mg/L	-	0.002 U	-	-	-	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-
Xylenes (total)	mg/L	-	-	-	-	-	-
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	0.004 U	-	-	-	0.004 U

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MLC-102	MLC-102	MLC-102	MLC-102	MLC-102	MLC-102
Sample ID:		W-58502-031611-SSH-WKZ1	W-58502-032311-SSH-MO.02	W-58502-033011-SSH-WKZ2	W-58502-040611-SSH-WK23	W-58502-041411-SSH-WK24	W-58502-042011-SSH-MO.03
Sample Date:		3/16/2011	3/23/2011	3/30/2011	4/6/2011	4/14/2011	4/20/2011
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	0.005 U	-	-	-	0.005 U
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-
3&4-Methylphenol	mg/L	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	0.005 U	-	-	-	0.005 U
4-Chloroaniline	mg/L	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-
Acenaphthene	mg/L	-	0.005 U	-	-	-	0.005 U
Acenaphthylene	mg/L	-	-	-	-	-	-
Acetophenone	mg/L	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-
Atrazine	mg/L	-	-	-	-	-	-
Benzaldehyde	mg/L	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	0.005 U	-	-	-	0.005 U
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	0.0015 J	-	-	-	0.00089 J
Butyl benzylphthalate (BBP)	mg/L	-	0.005 U	-	-	-	0.005 U
Caprolactam	mg/L	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	0.005 U	-	-	-	0.005 U
Dimethyl phthalate	mg/L	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	0.005 U	-	-	-	0.005 U
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	-	0.005 U	-	-	-	0.005 U
Fluorene	mg/L	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		MLC-102	MLC-102	MLC-102	MLC-102	MLC-102	MLC-102
Sample ID:		W-58502-031611-SSH-WKZ1	W-58502-032311-SSH-MO.02	W-58502-033011-SSH-WKZ2	W-58502-040611-SSH-WK23	W-58502-041411-SSH-WK24	W-58502-042011-SSH-MO.03
Sample Date:		3/16/2011	3/23/2011	3/30/2011	4/6/2011	4/14/2011	4/20/2011
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-
Phenol	mg/L	-	0.005 U	-	-	-	0.005 U
Pyrene	mg/L	-	0.005 U	-	-	-	0.005 U
Metals							
Aluminum	mg/L	-	-	-	-	-	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	-	-	-	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	-	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	-	-	-	-	-	-
Barium	mg/L	-	-	-	-	-	-
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	-	-	-	-	-	-
Beryllium	mg/L	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	-	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	-	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	-	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	-	-	-	-	-	-
Cobalt	mg/L	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	-	-	-	-	-	-
Copper	mg/L	-	0.025 U	-	-	-	0.025 U
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	-	-	-	-	-	-
Iron	mg/L	-	-	-	-	-	-
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	0.1 U	-	-	-	0.1 U
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	-	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	-	-	-	-	-	-
Manganese	mg/L	-	-	-	-	-	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	-	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-	-
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	-	-	-	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	-	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**MLC-102**	**MLC-102**	**MLC-102**	**MLC-102**	**MLC-102**	**MLC-102**
Sample ID:		**W-58502-031611-SSH-WKZ1**	**W-58502-032311-SSH-MO.02**	**W-58502-033011-SSH-WKZ2**	**W-58502-040611-SSH-WK23**	**W-58502-041411-SSH-WK24**	**W-58502-042011-SSH-MO.03**
Sample Date:		**3/16/2011**	**3/23/2011**	**3/30/2011**	**4/6/2011**	**4/14/2011**	**4/20/2011**
Parameters	**Units**						
Selenium, total recoverable	mg/L	-	-	-	-	-	-
Silver	mg/L	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	-	-	-	-	-	-
Sodium	mg/L	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	-	-	-	-	-	-
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	-	-	-	-	-	-
Zinc	mg/L	0.0125 B J	0.0153 B J	0.0161 B J	0.0228 J	0.0088 B J	0.0088 B
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	-	-	-	-	-	-
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/L	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/L	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/L	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/L	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/L	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/L	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/L	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/L	-	-	-	-	-	-
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-
Cyanide (amenable)	mg/L	-	-	-	-	-	-
Cyanide (total)	mg/L	-	-	-	-	-	-
Formaldehyde	mg/L	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-
Phenolics (total)	mg/L	-	0.022 B	-	-	-	0.010 B
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

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J Estima
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Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW In SECONDARY POND	SW3-05	SW3-05	SW4-05	SW-201-11	SW-203-11	SW-207-11	SW-209-11
Sample ID:		SW @ SECONDARY POND	W-7-0508	W-7-0509Q	W-7-0507	SW-58502-062711-SH-201	SW-58502-062711-SH-203	SW-58502-062711-SH-207	SW-58502-062811-SH-209
Sample Date:		1/29/2004	1/13/2005	1/13/2005 (Duplicate)	1/13/2005	6/27/2011	6/27/2011	6/27/2011	6/28/2011
Parameters	**Units**								
VOAs									
1,1,1-Trichloroethane	mg/L	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	-	-	-	-	-
Acetone	mg/L	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	-	-	-	-	-
Carbon disulfide	mg/L	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-
Chlorobenzene	mg/L	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/L	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-
Cyclohexane	mg/L	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/L	-	-	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/L	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	-	-	-	-	-
Methylene chloride	mg/L	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/L	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-
Trichloroethene	mg/L	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-
Xylenes (total)	mg/L	-	-	-	-	-	-	-	-
SVOAs									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	-	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW In SECONDARY POND	SW3-05	SW3-05	SW4-05	SW-201-11	SW-203-11	SW-207-11	SW-209-11
Sample ID:		SW @ SECONDARY POND	W-7-0508	W-7-0509Q	W-7-0507	SW-58502-062711-SH-201	SW-58502-062711-SH-203	SW-58502-062711-SH-207	SW-58502-062811-SH-209
Sample Date:		1/29/2004	1/13/2005	1/13/2005 (Duplicate)	1/13/2005	6/27/2011	6/27/2011	6/27/2011	6/28/2011
Parameters	**Units**								
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/L	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-	-	-
Acetophenone	mg/L	-	-	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-	-	-
Atrazine	mg/L	-	-	-	-	-	-	-	-
Benzaldehyde	mg/L	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-	-	-
Caprolactam	mg/L	-	-	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW In SECONDARY POND	SW3-05	SW3-05	SW4-05	SW-201-11	SW-203-11	SW-207-11	SW-209-11
Sample ID:		SW @ SECONDARY POND	W-7-0508	W-7-0509Q	W-7-0507	SW-58502-062711-SH-201	SW-58502-062711-SH-203	SW-58502-062711-SH-207	SW-58502-062811-SH-209
Sample Date:		1/29/2004	1/13/2005	1/13/2005 (Duplicate)	1/13/2005	6/27/2011	6/27/2011	6/27/2011	6/28/2011
Parameters	**Units**								
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-	-	-
Metals									
Aluminum	mg/L	-	0.12 J	0.115 J	0.432 J	-	-	-	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-	-	-
Antimony	mg/L	-	0.05 UJ	0.05 UJ	0.05 UJ	-	-	-	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-	-	-
Antimony, total recoverable	mg/L	-	-	-	-	0.00031 J	0.00031 J	0.00052 J	0.00055 J
Arsenic	mg/L	-	0.002 J	0.0017 J	0.0048 J	-	-	-	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	-	-	-	-	0.0023 J	0.0026 J	0.0023 J	0.0025 J
Barium	mg/L	-	0.0034 J	0.0025 J	0.0135	-	-	-	-
Barium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Barium, total recoverable	mg/L	-	-	-	-	0.032 J	0.033 J	0.041 J	0.043 J
Beryllium	mg/L	-	0.005 U	0.005 U	0.005 U	-	-	-	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	-	0.0005 U	0.0005 U	0.0007	-	-	-	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	-	-	-	-	-	-	-	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Calcium, total recoverable	mg/L	-	-	-	-	74	74	82	85
Chromium	mg/L	-	0.005 U	0.005 U	0.005 U	-	-	-	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Chromium, total recoverable	mg/L	-	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L	-	-	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	-	-	-	-	0.00016 J	0.00016 J	0.00017 J	0.00021 J
Copper	mg/L	-	0.01 U	0.01 U	0.01 U	-	-	-	-
Copper (dissolved)	mg/L	-	-	-	-	-	-	-	-
Copper, total recoverable	mg/L	-	-	-	-	0.0011 J	0.00099 J	0.00045 J	0.002 U
Iron	mg/L	-	-	-	-	-	-	-	-
Iron (dissolved)	mg/L	-	-	-	-	-	-	-	-
Lead	mg/L	-	0.0015 J	0.0017 J	0.0027	-	-	-	-
Lead (dissolved)	mg/L	-	-	-	-	-	-	-	-
Lead, total recoverable	mg/L	-	-	-	-	0.003 U	0.003 U	0.003 U	0.00027 J
Magnesium	mg/L	-	-	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	-	-	-	-	22	22	21	21
Manganese	mg/L	-	0.462	0.453	1.7	-	-	-	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-	-	-
Manganese, total recoverable	mg/L	-	-	-	-	0.13	0.12	0.098	0.18
Mercury	mg/L	-	-	-	-	0.0000004 J	0.00000018 J	0.0000005 U	0.00000047 J
Mercury (dissolved)	mg/L	-	-	-	-	-	-	-	-
Nickel	mg/L	-	0.02 U	0.02 U	0.02 U	-	-	-	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-	-	-
Nickel, total recoverable	mg/L	-	-	-	-	0.0011 J	0.0014 J	0.001 J	0.0011 J
Potassium	mg/L	-	-	-	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW In SECONDARY POND	SW3-05	SW3-05	SW4-05	SW-201-11	SW-203-11	SW-207-11	SW-209-11
Sample ID:		SW @ SECONDARY POND	W-7-0508	W-7-0509Q	W-7-0507	SW-58502-062711-SH-201	SW-58502-062711-SH-203	SW-58502-062711-SH-207	SW-58502-062811-SH-209
Sample Date:		1/29/2004	1/13/2005	1/13/2005 (Duplicate)	1/13/2005	6/27/2011	6/27/2011	6/27/2011	6/28/2011
Parameters	**Units**								
Selenium, total recoverable	mg/L	-	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	-	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-	-	-
Silver, total recoverable	mg/L	-	-	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Thallium, total recoverable	mg/L	-	-	-	-	0.00037 J	0.00018 J	0.001 U	0.001 U
Tin	mg/L	-	-	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-	-	-
Vanadium	mg/L	-	0.01 U	0.01 U	0.0038 J	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	-	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U
Zinc	mg/L	-	0.0217	0.0238	0.051	-	-	-	-
Zinc (dissolved)	mg/L	-	-	-	-	-	-	-	-
Zinc, total recoverable	mg/L	-	-	-	-	0.02 U	0.02 U	0.02 U	0.02 U
PCBs									
Aroclor-1016 (PCB-1016)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1221 (PCB-1221)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1232 (PCB-1232)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1242 (PCB-1242)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1248 (PCB-1248)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1254 (PCB-1254)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1260 (PCB-1260)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 UJ
Aroclor-1262 (PCB-1262)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Aroclor-1268 (PCB-1268)	mg/L	-	-	-	-	0.000095 U	0.000095 U	0.000095 U	0.0001 U
Total PCBs	mg/L	-	-	-	-	-	-	-	-
Wet									
Ammonia	mg/L	-	-	-	-	0.83 J	1.1 J	3.9	4.2
Ammonia-N	mg/L	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	2.0 U	2.0 U	4.2	12
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	53	51	53	48
Cyanide (amenable)	mg/L	-	-	-	-	0.010 U	0.010 U	0.010 U	0.010 U
Cyanide (total)	mg/L	-	-	-	-	0.010 U	0.010 U	0.010 U	0.010 U
Formaldehyde	mg/L	-	-	-	-	0.050 U	0.050 U	0.050 U	0.050 U
Hardness, carbonate	mg/L	-	-	-	-	280	270	290	300
Nitrate (as N)	mg/L	-	-	-	-	0.27	0.27	0.51	0.48
Oil and grease (HEM), polar	mg/L	-	-	-	-	1.1 J	4.9 U	1.3 J	5.1 U
pH, lab	s.u.	-	6.87	6.94	6.60	8.35 J	8.55 J	8.40 J	8.27 J
Phenolics (total)	mg/L	-	-	-	-	0.040 U	0.040 U	0.0073 J	0.23
Total organic carbon (TOC)	mg/L	-	-	-	-	16	15	14	15
fparam									
pH, field	s.u.	6.53	-	-	-	-	-	-	-

Footnotes:

U Not de
J Estima
UJ Not de

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-211-11	SW-211-11	SW-214-11	SW-222-11	SW-224-11	SW-226-11
Sample ID:		SW-58502-062811-SH-211	SW-58502-062811-SH-212	SW-58502-062811-SH-214	SW-58502-062911-SH-222	SW-58502-062911-SH-224	SW-58502-062911-SH-226
Sample Date:		6/28/2011	6/28/2011 (Duplicate)	6/28/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethane	mg/L	-	-	-	-	-	-
1,1-Dichloroethene	mg/L	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,2-Dichloroethane	mg/L	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	-	-	-
Acetone	mg/L	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	-	-	-
Carbon disulfide	mg/L	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-
Chlorobenzene	mg/L	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/L	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/L	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Cyclohexane	mg/L	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-
Isopropyl benzene	mg/L	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	-	-	-
Methyl cyclohexane	mg/L	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	-	-	-
Methylene chloride	mg/L	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-
Tetrachloroethene	mg/L	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-
Trichloroethene	mg/L	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	-	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-
Xylenes (total)	mg/L	-	-	-	-	-	-
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-211-11	SW-211-11	SW-214-11	SW-222-11	SW-224-11	SW-226-11
Sample ID:		SW-58502-062811-SH-211	SW-58502-062811-SH-212	SW-58502-062811-SH-214	SW-58502-062911-SH-222	SW-58502-062911-SH-224	SW-58502-062911-SH-226
Sample Date:		6/28/2011	6/28/2011 (Duplicate)	6/28/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-
3&4-Methylphenol	mg/L	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-
Acetophenone	mg/L	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-
Atrazine	mg/L	-	-	-	-	-	-
Benzaldehyde	mg/L	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-
Caprolactam	mg/L	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-211-11	SW-211-11	SW-214-11	SW-222-11	SW-224-11	SW-226-11
Sample ID:		SW-58502-062811-SH-211	SW-58502-062811-SH-212	SW-58502-062811-SH-214	SW-58502-062911-SH-222	SW-58502-062911-SH-224	SW-58502-062911-SH-226
Sample Date:		6/28/2011	6/28/2011 (Duplicate)	6/28/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-
Metals							
Aluminum	mg/L	-	-	-	-	-	-
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	-	-	-	-
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	0.00055 J	0.00054 J	0.00053 J	0.0005 J	0.00049 J	0.00052 J
Arsenic	mg/L	-	-	-	-	-	-
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	0.0024 J	0.0023 J	0.0024 J	0.0025 J	0.0024 J	0.0023 J
Barium	mg/L	-	-	-	-	-	-
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	0.044 J	0.042 J	0.043 J	0.045 J	0.043 J	0.043 J
Beryllium	mg/L	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	-	-	-	-	-	-
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	84	86	85	82	82	84
Chromium	mg/L	-	-	-	-	-	-
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	mg/L	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	0.00022 J	0.00021 J	0.00023 J	0.00021 J	0.00019 J	0.00018 J
Copper	mg/L	-	-	-	-	-	-
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	0.002 U	0.002 U	0.002 U	0.00053 J	0.0007 J	0.00058 J
Iron	mg/L	-	-	-	-	-	-
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	-	-	-	-	-
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	0.00018 J	0.00018 J	0.003 U	0.003 U	0.003 U	0.003 U
Magnesium	mg/L	-	-	-	-	-	-
Magnesium, total recoverable	mg/L	21	21	21	20	20	20
Manganese	mg/L	-	-	-	-	-	-
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	0.17	0.15	0.16	0.19	0.17	0.16
Mercury	mg/L	0.0000005 U	0.00000014 J	0.00000015 J	0.0000003 J	0.00000026 J	0.0000002 J
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	-	-	-	-
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	0.0013 J	0.0011 J	0.0012 J	0.0013 J	0.001 J	0.00097 J
Potassium	mg/L	-	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-211-11	SW-211-11	SW-214-11	SW-222-11	SW-224-11	SW-226-11
Sample ID:		SW-58502-062811-SH-211	SW-58502-062811-SH-212	SW-58502-062811-SH-214	SW-58502-062911-SH-222	SW-58502-062911-SH-224	SW-58502-062911-SH-226
Sample Date:		6/28/2011	6/28/2011 (Duplicate)	6/28/2011	6/29/2011	6/29/2011	6/29/2011
Parameters	**Units**						
Selenium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	0.004 U	0.004 U	0.004 U	0.00066 J	0.004 U	0.004 U
Zinc	mg/L	-	-	-	-	-	-
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1221 (PCB-1221)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1232 (PCB-1232)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1242 (PCB-1242)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1248 (PCB-1248)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1254 (PCB-1254)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1260 (PCB-1260)	mg/L	0.000095 UJ	0.000095 UJ	0.000095 UJ	0.0001 UJ	0.000095 UJ	0.000097 UJ
Aroclor-1262 (PCB-1262)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Aroclor-1268 (PCB-1268)	mg/L	0.000095 U	0.000095 U	0.000095 U	0.0001 U	0.000095 U	0.000097 U
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	4.2	3.9	4.2	3.6	3.9	3.6
Ammonia-N	mg/L	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	7.6	8.0	7.4	8.5	7.8	8.0
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	33	30	38	40	43	51
Cyanide (amenable)	mg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Cyanide (total)	mg/L	0.0071 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Formaldehyde	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
Hardness, carbonate	mg/L	300	300	300	290	290	290
Nitrate (as N)	mg/L	0.46	0.46	0.45	0.38 J	0.39 J	0.38 J
Oil and grease (HEM), polar	mg/L	5.1 U	4.8 U	5.2 U	1.0 J	1.1 J	1.2 J
pH, lab	s.u.	8.40 J	8.25 J	8.23 J	8.27 J	8.28 J	8.35 J
Phenolics (total)	mg/L	0.040 U	0.040 U	0.011 J	0.040 U	0.0094 J	0.040 U
Total organic carbon (TOC)	mg/L	14	14	14	14	14	14
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

U Not de
J Estima
UJ Not de

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-228-11	SW-230-11	SW-232-11	SW-330-16	SW-331-16	SW-332-16
Sample ID:		SW-58502-062911-SH-228	SW-58502-062911-SH-230	SW-58502-062911-SH-232	W-58502-031616-SSH-1618	W-58502-031616-SSH-1619	W-58502-031616-SSH-1620
Sample Date:		6/29/2011	6/29/2011	6/29/2011	3/16/2016	3/16/2016	3/16/2016
Parameters	**Units**						
VOAs							
1,1,1-Trichloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
2-Hexanone	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
Acetone	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
Benzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	-	-	-	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Cyclohexane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Isopropyl benzene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Methyl acetate	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
Methyl cyclohexane	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Methylene chloride	mg/L	-	-	-	0.005 U	0.005 U	0.005 U
Styrene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Toluene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	-	-	-	0.002 U	0.002 U	0.002 U
SVOAs							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2,4,5-Trichlorophenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2,4,6-Trichlorophenol	mg/L	-	-	-	0.0038 U	0.0038 U	0.0038 U

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-228-11	SW-230-11	SW-232-11	SW-330-16	SW-331-16	SW-332-16
Sample ID:		SW-58502-062911-SH-228	SW-58502-062911-SH-230	SW-58502-062911-SH-232	W-58502-031616-SSH-1618	W-58502-031616-SSH-1619	W-58502-031616-SSH-1620
Sample Date:		6/29/2011	6/29/2011	6/29/2011	3/16/2016	3/16/2016	3/16/2016
Parameters	**Units**						
2,4-Dichlorophenol	mg/L	-	-	-	0.0095 U	0.0095 U	0.0095 U
2,4-Dimethylphenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2,4-Dinitrophenol	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
2,4-Dinitrotoluene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2,6-Dinitrotoluene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2-Chloronaphthalene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2-Chlorophenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2-Methylnaphthalene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2-Methylphenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
2-Nitroaniline	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
2-Nitrophenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
3&4-Methylphenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
3,3'-Dichlorobenzidine	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
3-Nitroaniline	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
4-Bromophenyl phenyl ether	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
4-Chloro-3-methylphenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
4-Chloroaniline	mg/L	-	-	-	0.0095 U	0.0095 U	0.0095 U
4-Chlorophenyl phenyl ether	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
4-Nitroaniline	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
4-Nitrophenol	mg/L	-	-	-	0.019 U	0.019 U	0.019 U
Acenaphthene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Acenaphthylene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Acetophenone	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Anthracene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Atrazine	mg/L	-	-	-	0.0029 U	0.0029 U	0.0029 U
Benzaldehyde	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Benzo(a)anthracene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Benzo(a)pyrene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Benzo(b)fluoranthene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Benzo(g,h,i)perylene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Benzo(k)fluoranthene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Biphenyl (1,1-Biphenyl)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
bis(2-Chloroethoxy)methane	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
bis(2-Chloroethyl)ether	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Butyl benzylphthalate (BBP)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Caprolactam	mg/L	-	-	-	0.0095 U	0.0095 U	0.0095 U
Carbazole	mg/L	-	-	-	0.0095 U	0.0095 U	0.0095 U
Chrysene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Dibenz(a,h)anthracene	mg/L	-	-	-	0.0019 U	0.0019 U	0.0019 U
Dibenzofuran	mg/L	-	-	-	0.0038 U	0.0038 U	0.0038 U
Diethyl phthalate	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Dimethyl phthalate	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Di-n-butylphthalate (DBP)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Fluoranthene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Fluorene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Hexachlorobenzene	mg/L	-	-	-	0.00019 U	0.00019 U	0.00019 U
Hexachlorobutadiene	mg/L	-	-	-	0.00095 U	0.00095 U	0.00095 U
Hexachlorocyclopentadiene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Hexachloroethane	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	0.0019 U	0.0019 U	0.0019 U
Isophorone	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Naphthalene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Nitrobenzene	mg/L	-	-	-	0.0029 U	0.0029 U	0.0029 U

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-228-11	SW-230-11	SW-232-11	SW-330-16	SW-331-16	SW-332-16
Sample ID:		SW-58502-062911-SH-228	SW-58502-062911-SH-230	SW-58502-062911-SH-232	W-58502-031616-SSH-1618	W-58502-031616-SSH-1619	W-58502-031616-SSH-1620
Sample Date:		6/29/2011	6/29/2011	6/29/2011	3/16/2016	3/16/2016	3/16/2016
Parameters	**Units**						
N-Nitrosodi-n-propylamine	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
N-Nitrosodiphenylamine	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Pentachlorophenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Phenanthrene	mg/L	-	-	-	0.0019 U	0.0019 U	0.0019 U
Phenol	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Pyrene	mg/L	-	-	-	0.0048 U	0.0048 U	0.0048 U
Metals							
Aluminum	mg/L	-	-	-	0.19	0.1	0.14
Aluminum (dissolved)	mg/L	-	-	-	-	-	-
Antimony	mg/L	-	-	-	0.002 U	0.002 U	0.002 U
Antimony (dissolved)	mg/L	-	-	-	-	-	-
Antimony, total recoverable	mg/L	0.00055 J	0.00076 J	0.00047 J	-	-	-
Arsenic	mg/L	-	-	-	0.005 U	0.005 U	0.005 U
Arsenic (dissolved)	mg/L	-	-	-	-	-	-
Arsenic, total recoverable	mg/L	0.0024 J	0.0027 J	0.0025 J	-	-	-
Barium	mg/L	-	-	-	0.1 U	0.1 U	0.1 U
Barium (dissolved)	mg/L	-	-	-	-	-	-
Barium, total recoverable	mg/L	0.043 J	0.046 J	0.042 J	-	-	-
Beryllium	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	-	-	-	-	-	-
Beryllium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	-	-	-
Cadmium	mg/L	-	-	-	0.001 U	0.001 U	0.001 U
Cadmium (dissolved)	mg/L	-	-	-	-	-	-
Cadmium, total recoverable	mg/L	0.001 U	0.001 U	0.001 U	-	-	-
Calcium	mg/L	-	-	-	55	53	52
Calcium (dissolved)	mg/L	-	-	-	-	-	-
Calcium, total recoverable	mg/L	86	84	84	-	-	-
Chromium	mg/L	-	-	-	0.01 U	0.01 U	0.01 U
Chromium (dissolved)	mg/L	-	-	-	-	-	-
Chromium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	-	-	-
Cobalt	mg/L	-	-	-	0.02 U	0.02 U	0.02 U
Cobalt (dissolved)	mg/L	-	-	-	-	-	-
Cobalt, total recoverable	mg/L	0.0002 J	0.00023 J	0.00019 J	-	-	-
Copper	mg/L	-	-	-	0.004 U	0.004 U	0.004 U
Copper (dissolved)	mg/L	-	-	-	-	-	-
Copper, total recoverable	mg/L	0.0005 J	0.00068 J	0.00051 J	-	-	-
Iron	mg/L	-	-	-	0.2 U	0.2 U	0.2 U
Iron (dissolved)	mg/L	-	-	-	-	-	-
Lead	mg/L	-	-	-	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	-	-	-	-	-	-
Lead, total recoverable	mg/L	0.003 U	0.00019 J	0.003 U	-	-	-
Magnesium	mg/L	-	-	-	18	18	18
Magnesium, total recoverable	mg/L	21	20	21	-	-	-
Manganese	mg/L	-	-	-	0.13	0.13	0.13
Manganese (dissolved)	mg/L	-	-	-	-	-	-
Manganese, total recoverable	mg/L	0.17	0.19	0.17	-	-	-
Mercury	mg/L	0.00000024 J	0.0000005 U	0.0000005 U	0.0002 U	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	-	-	-	-	-	-
Nickel	mg/L	-	-	-	0.02 U	0.02 U	0.02 U
Nickel (dissolved)	mg/L	-	-	-	-	-	-
Nickel, total recoverable	mg/L	0.0011 J	0.0013 J	0.0012 J	-	-	-
Potassium	mg/L	-	-	-	12	12	12
Selenium	mg/L	-	-	-	0.005 U	0.005 U	0.005 U
Selenium (dissolved)	mg/L	-	-	-	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		SW-228-11	SW-230-11	SW-232-11	SW-330-16	SW-331-16	SW-332-16
Sample ID:		SW-58502-062911-SH-228	SW-58502-062911-SH-230	SW-58502-062911-SH-232	W-58502-031616-SSH-1618	W-58502-031616-SSH-1619	W-58502-031616-SSH-1620
Sample Date:		6/29/2011	6/29/2011	6/29/2011	3/16/2016	3/16/2016	3/16/2016
Parameters	**Units**						
Selenium, total recoverable	mg/L	0.005 U	0.005 U	0.005 U	-	-	-
Silver	mg/L	-	-	-	0.0002 U	0.0002 U	0.0002 U
Silver (dissolved)	mg/L	-	-	-	-	-	-
Silver, total recoverable	mg/L	0.0002 U	0.0002 U	0.0002 U	-	-	-
Sodium	mg/L	-	-	-	150	150	150
Thallium	mg/L	-	-	-	0.002 U	0.002 U	0.002 U
Thallium (dissolved)	mg/L	-	-	-	-	-	-
Thallium, total recoverable	mg/L	0.001 U	0.0011	0.001 U	-	-	-
Tin	mg/L	-	-	-	-	-	-
Tin (dissolved)	mg/L	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	0.004 U	0.004 U	0.004 U
Vanadium (dissolved)	mg/L	-	-	-	-	-	-
Vanadium, total recoverable	mg/L	0.004 U	0.004 U	0.004 U	-	-	-
Zinc	mg/L	-	-	-	0.05 U	0.05 U	0.05 U
Zinc (dissolved)	mg/L	-	-	-	-	-	-
Zinc, total recoverable	mg/L	0.02 U	0.0024 J	0.02 U	-	-	-
PCBs							
Aroclor-1016 (PCB-1016)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.000095 UJ	0.000095 UJ	0.0001 UJ	0.000095 U	0.000095 U	0.000095 U
Aroclor-1262 (PCB-1262)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	-	-	-
Aroclor-1268 (PCB-1268)	mg/L	0.000095 UJ	0.000095 U	0.0001 U	-	-	-
Total PCBs	mg/L	-	-	-	-	-	-
Wet							
Ammonia	mg/L	4.7 J	4.2	3.9	-	-	-
Ammonia-N	mg/L	-	-	-	0.20 U	0.20 U	0.20 U
Biochemical oxygen demand (BOD)	mg/L	4.3 J	6.5	6.8	-	-	-
Biochemical oxygen demand (carbonaceous)	mg/L	-	-	-	2.0 U	2.0 U	2.0 U
Chemical oxygen demand (COD)	mg/L	51 J	48	51	-	-	-
Cyanide (amenable)	mg/L	0.010 UJ	0.010 U	0.010 U	-	-	-
Cyanide (total)	mg/L	0.010 UJ	0.010 U	0.010 U	-	-	-
Formaldehyde	mg/L	0.050 UJ	0.050 U	0.050 U	-	-	-
Hardness, carbonate	mg/L	300	290	290	-	-	-
Nitrate (as N)	mg/L	0.37 J	0.39 J	0.40 J	-	-	-
Oil and grease (HEM), polar	mg/L	1.2 J	0.91 J	0.81 J	-	-	-
pH, lab	s.u.	8.26 J	8.30 J	8.39 J	-	-	-
Phenolics (total)	mg/L	0.040 UJ	0.040 U	0.040 U	-	-	-
Total organic carbon (TOC)	mg/L	14 J	14	14	-	-	-
fparam							
pH, field	s.u.	-	-	-	-	-	-

Footnotes:

U Not de
J Estima
UJ Not de

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SW-338-16**	**SW-343-16**	**SW-347-16**
Sample ID:		**W-58502-032416-SSH-1635**	**W-58502-032416-SSH-1632**	**W-58502-031716-SSH-1621**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**
Parameters	**Units**			
VOAs				
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U*	0.001 UF1	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.001 U	0.001 UF1	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.001 U*	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 UF1	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	0.001 U	0.001 UF2	0.001 U
1,4-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.01 U	0.01 U	0.01 U
2-Hexanone	mg/L	0.01 U	0.01 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.01 U*	0.01 U	0.01 U
Acetone	mg/L	0.01 U	0.01 U	0.01 U
Benzene	mg/L	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 UF1	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U*	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U
Cyclohexane	mg/L	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	0.001 U	0.001 U	0.001 UF1
Ethylbenzene	mg/L	0.001 U	0.001 U	0.001 U
Isopropyl benzene	mg/L	0.001 U	0.001 U	0.001 U
Methyl acetate	mg/L	0.01 U*	0.01 U	0.01 U
Methyl cyclohexane	mg/L	0.001 U	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	0.001 U	0.001 U	0.001 U
Methylene chloride	mg/L	0.005 U	0.005 UF1	0.005 U
Styrene	mg/L	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	0.001 U	0.001 U	0.001 U
Toluene	mg/L	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.001 U
Trifluorotrichloroethane (CFC-113)	mg/L	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	0.002 U	0.002 U	0.002 U
SVOAs				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	0.0052 U	0.0052 U	0.0048 U
2,4,5-Trichlorophenol	mg/L	0.0052 U	0.0052 U	0.0048 U
2,4,6-Trichlorophenol	mg/L	0.0042 U	0.0042 U	0.0038 U

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SW-338-16**	**SW-343-16**	**SW-347-16**
Sample ID:		**W-58502-032416-SSH-1635**	**W-58502-032416-SSH-1632**	**W-58502-031716-SSH-1621**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**
Parameters	**Units**			
2,4-Dichlorophenol	mg/L	0.01 U	0.01 U	0.0095 U
2,4-Dimethylphenol	mg/L	0.0052 U	0.0052 U	0.0048 U
2,4-Dinitrophenol	mg/L	0.021 U	0.021 U	0.019 U
2,4-Dinitrotoluene	mg/L	0.0052 U	0.0052 U	0.0048 U
2,6-Dinitrotoluene	mg/L	0.0052 U	0.0052 U	0.0048 U
2-Chloronaphthalene	mg/L	0.0052 U	0.0052 U	0.0048 U
2-Chlorophenol	mg/L	0.0052 U	0.0052 U	0.0048 U
2-Methylnaphthalene	mg/L	0.0052 U	0.0052 U	0.0048 U
2-Methylphenol	mg/L	0.0052 U	0.0052 U	0.0048 U
2-Nitroaniline	mg/L	0.021 U	0.021 U	0.019 U
2-Nitrophenol	mg/L	0.0052 U	0.0052 U	0.0048 U
3&4-Methylphenol	mg/L	0.0052 U	0.0052 U	0.0048 U
3,3'-Dichlorobenzidine	mg/L	0.001 U	0.001 U	0.00095 U
3-Nitroaniline	mg/L	0.021 U	0.021 U	0.019 U
4,6-Dinitro-2-methylphenol	mg/L	0.021 U	0.021 U	0.019 U
4-Bromophenyl phenyl ether	mg/L	0.0052 U	0.0052 U	0.0048 U
4-Chloro-3-methylphenol	mg/L	0.0052 U	0.0052 U	0.0048 U
4-Chloroaniline	mg/L	0.01 U	0.01 U	0.0095 U
4-Chlorophenyl phenyl ether	mg/L	0.0052 U	0.0052 U	0.0048 U
4-Nitroaniline	mg/L	0.021 U	0.021 U	0.019 U
4-Nitrophenol	mg/L	0.021 U	0.021 U	0.019 U
Acenaphthene	mg/L	0.0052 U	0.0052 U	0.0048 U
Acenaphthylene	mg/L	0.0052 U	0.0052 U	0.0048 U
Acetophenone	mg/L	0.0052 U	0.0052 U	0.0048 U
Anthracene	mg/L	0.0052 U	0.0052 U	0.0048 U
Atrazine	mg/L	0.0031 U	0.0031 U	0.0029 U
Benzaldehyde	mg/L	0.0052 U	0.0052 U	0.0048 U
Benzo(a)anthracene	mg/L	0.001 U	0.001 U	0.00095 U
Benzo(a)pyrene	mg/L	0.001 U	0.001 U	0.00095 U
Benzo(b)fluoranthene	mg/L	0.001 U	0.001 U	0.00095 U
Benzo(g,h,i)perylene	mg/L	0.001 U	0.001 U	0.00095 U
Benzo(k)fluoranthene	mg/L	0.001 U	0.001 U	0.00095 U
Biphenyl (1,1-Biphenyl)	mg/L	0.0052 U	0.0052 U	0.0048 U
bis(2-Chloroethoxy)methane	mg/L	0.0052 U	0.0052 U	0.0048 U
bis(2-Chloroethyl)ether	mg/L	0.001 U	0.001 U	0.00095 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.0052 U	0.0052 U	0.0048 U
Butyl benzylphthalate (BBP)	mg/L	0.0052 U	0.0052 U	0.0048 U
Caprolactam	mg/L	0.01 U	0.01 U	0.0095 U
Carbazole	mg/L	0.01 U	0.01 U	0.0095 U
Chrysene	mg/L	0.001 U	0.001 U	0.00095 U
Dibenz(a,h)anthracene	mg/L	0.0021 U	0.0021 U	0.0019 U
Dibenzofuran	mg/L	0.0042 U	0.0042 U	0.0038 U
Diethyl phthalate	mg/L	0.0052 U	0.0052 U	0.0048 U
Dimethyl phthalate	mg/L	0.0052 U	0.0052 U	0.0048 U
Di-n-butylphthalate (DBP)	mg/L	0.0052 U	0.0052 U	0.0048 U
Di-n-octyl phthalate (DnOP)	mg/L	0.0052 U	0.0052 U	0.0048 U
Fluoranthene	mg/L	0.001 U*	0.001 U*	0.00095 U
Fluorene	mg/L	0.0052 U	0.0052 U	0.0048 U
Hexachlorobenzene	mg/L	0.00021 U	0.00021 U	0.00019 U
Hexachlorobutadiene	mg/L	0.001 U	0.001 U	0.00095 U
Hexachlorocyclopentadiene	mg/L	0.0052 U	0.0052 U	0.0048 U
Hexachloroethane	mg/L	0.0052 U	0.0052 U	0.0048 U
Indeno(1,2,3-cd)pyrene	mg/L	0.0021 U	0.0021 U	0.0019 U
Isophorone	mg/L	0.0052 U	0.0052 U	0.0048 U
Naphthalene	mg/L	0.0052 U	0.0052 U	0.0048 U
Nitrobenzene	mg/L	0.0031 U	0.0031 U	0.0029 U

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SW-338-16**	**SW-343-16**	**SW-347-16**
Sample ID:		**W-58502-032416-SSH-1635**	**W-58502-032416-SSH-1632**	**W-58502-031716-SSH-1621**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**
Parameters	**Units**			
N-Nitrosodi-n-propylamine	mg/L	0.0052 U	0.0052 U	0.0048 U
N-Nitrosodiphenylamine	mg/L	0.0052 U	0.0052 U	0.0048 U
Pentachlorophenol	mg/L	0.0052 U	0.0052 U	0.0048 U
Phenanthrene	mg/L	0.0021 U	0.0021 U	0.0019 U
Phenol	mg/L	0.0052 U	0.0052 U	0.0048 U
Pyrene	mg/L	0.0052 U	0.0052 U	0.0048 U
Metals				
Aluminum	mg/L	0.1	0.1	0.078
Aluminum (dissolved)	mg/L	-	-	-
Antimony	mg/L	0.002 U	0.002 U	0.002 U
Antimony (dissolved)	mg/L	-	-	-
Antimony, total recoverable	mg/L	-	-	-
Arsenic	mg/L	0.005 U	0.005 U	0.005 U
Arsenic (dissolved)	mg/L	-	-	-
Arsenic, total recoverable	mg/L	-	-	-
Barium	mg/L	0.1 U	0.1 U	0.1 U
Barium (dissolved)	mg/L	-	-	-
Barium, total recoverable	mg/L	-	-	-
Beryllium	mg/L	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	-	-	-
Beryllium, total recoverable	mg/L	-	-	-
Cadmium	mg/L	0.001 U	0.001 U	0.001 U
Cadmium (dissolved)	mg/L	-	-	-
Cadmium, total recoverable	mg/L	-	-	-
Calcium	mg/L	62	67	54
Calcium (dissolved)	mg/L	-	-	-
Calcium, total recoverable	mg/L	-	-	-
Chromium	mg/L	0.01 U	0.01 U	0.01 U
Chromium (dissolved)	mg/L	-	-	-
Chromium, total recoverable	mg/L	-	-	-
Cobalt	mg/L	0.02 U	0.02 U	0.02 U
Cobalt (dissolved)	mg/L	-	-	-
Cobalt, total recoverable	mg/L	-	-	-
Copper	mg/L	0.004 U	0.004 U	0.004 U
Copper (dissolved)	mg/L	-	-	-
Copper, total recoverable	mg/L	-	-	-
Iron	mg/L	0.2 U	0.2 U	0.2 U
Iron (dissolved)	mg/L	-	-	-
Lead	mg/L	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	-	-	-
Lead, total recoverable	mg/L	-	-	-
Magnesium	mg/L	17	18	18
Magnesium, total recoverable	mg/L	-	-	-
Manganese	mg/L	0.31	0.34	0.17
Manganese (dissolved)	mg/L	-	-	-
Manganese, total recoverable	mg/L	-	-	-
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	-	-	-
Nickel	mg/L	0.02 U	0.02 U	0.02 U
Nickel (dissolved)	mg/L	-	-	-
Nickel, total recoverable	mg/L	-	-	-
Potassium	mg/L	13	15	12
Selenium	mg/L	0.005 U	0.005 U	0.005 U
Selenium (dissolved)	mg/L	-	-	-

Secondary Pond Surface Water Analytical Results Summary
RACER Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:		**SW-338-16**	**SW-343-16**	**SW-347-16**
Sample ID:		**W-58502-032416-SSH-1635**	**W-58502-032416-SSH-1632**	**W-58502-031716-SSH-1621**
Sample Date:		**3/24/2016**	**3/24/2016**	**3/17/2016**
Parameters	**Units**			
Selenium, total recoverable	mg/L	-	-	-
Silver	mg/L	0.0002 U	0.0002 U	0.0002 U
Silver (dissolved)	mg/L	-	-	-
Silver, total recoverable	mg/L	-	-	-
Sodium	mg/L	200	220	150
Thallium	mg/L	0.002 U	0.002 U	0.002 U
Thallium (dissolved)	mg/L	-	-	-
Thallium, total recoverable	mg/L	-	-	-
Tin	mg/L	-	-	-
Tin (dissolved)	mg/L	-	-	-
Vanadium	mg/L	0.004 U	0.004 U	0.004 U
Vanadium (dissolved)	mg/L	-	-	-
Vanadium, total recoverable	mg/L	-	-	-
Zinc	mg/L	0.05 U	0.05 U	0.05 U
Zinc (dissolved)	mg/L	-	-	-
Zinc, total recoverable	mg/L	-	-	-
PCBs				
Aroclor-1016 (PCB-1016)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.000096 U	0.000095 U	0.000095 U
Aroclor-1262 (PCB-1262)	mg/L	-	-	-
Aroclor-1268 (PCB-1268)	mg/L	-	-	-
Total PCBs	mg/L	-	-	-
Wet				
Ammonia	mg/L	-	-	-
Ammonia-N	mg/L	0.20 U	0.20 U	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-
Biochemical oxygen demand (carbonaceous)	mg/L	5.6 b	5.9 b	-
Chemical oxygen demand (COD)	mg/L	-	-	-
Cyanide (amenable)	mg/L	-	-	-
Cyanide (total)	mg/L	-	-	-
Formaldehyde	mg/L	0.050 U	0.050 U	-
Hardness, carbonate	mg/L	-	-	-
Nitrate (as N)	mg/L	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-
pH, lab	s.u.	-	-	-
Phenolics (total)	mg/L	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-
fparam				
pH, field	s.u.	-	-	-

Footnotes:

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J Estima
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Attachment B

Photo 1 - View of Secondary Pond facing south (towards point) 06-29-2016

Photo 2 - View of Secondary Pond facing south (towards point) 07-29-2016

Attachment B - Site Photographs

Photo 3 - View of Secondary Pond facing south (towards point) 08-24-2016

Photo 4 - View of Secondary Pond facing south (towards point) 09-06-2016

Attachment B - Site Photographs

Photo 5 - View of Secondary Pond facing south (towards point) 09-20-2016

Photo 6 – View of Secondary Pond facing east (towards eastern portion of pond) 06-23-2017

Attachment B - Site Photographs

Photo 7 – View of Secondary Pond facing west (towards western portion of pond) 06-23-2017